



31761118901255

**B 2  
STORAGE**

HANDBOUND  
AT THE



UNIVERSITY OF  
TORONTO PRESS





Digitized by the Internet Archive  
in 2023 with funding from  
University of Toronto

<https://archive.org/details/31761118901255>





Gov Doc  
Ont  
H

9D



ONTARIO HYDRO

# NEWS

v. 47

JANUARY 1960

-DECEMBER



# ONTARIO

## THE COMMISSION

JAMES S. DUNCAN, C.M.G., LL.D.  
Chairman

W. ROSS STRIKE, Q.C.  
First Vice-Chairman

HON. ROBERT W. MACAULAY, Q.C., M.P.P.  
Second Vice-Chairman

LT.-COL. A. A. KENNEDY, D.S.O., E.D.  
Commissioner

D. P. CLIFF  
Commissioner

J. M. HAMBLEY B.Sc.  
General Manager

OTTO HOLDEN, B.A.Sc., C.E., D.Eng.  
Chief Engineer

ERNEST B. EASSON, B.Com.  
Secretary

## EDITORIAL BOARD

JAMES S. DUNCAN, C.M.G., LL.D.

BERT MERSON  
President, O.M.E.A.

W. RAY PFAFF  
President, A.M.E.U.

J. M. HAMBLEY B.Sc.

OTTO HOLDEN, B.A.Sc., C.E., D.Eng.

ERNEST B. EASSON, B.Com.

JAMES A. BLAY

BOYD L. GRAHAM

Editor - BOYD L. GRAHAM

SUBSCRIPTION: \$5.00 PER YEAR

Published by The Hydro-Electric Power Commission of Ontario, 620 University Avenue, Toronto.

Authorized as second class mail, Post Office Department, Ottawa.

Material published in Ontario Hydro News may be reprinted

JANUARY, 1960

VOL. 47, NO. 1

## CONTENTS

PAGE

The Heat's On .....	1
Ontario Hydro's line crews test new techniques	
Storm Saga .....	2
Linemen battle winter's ravages	
The Big Job's Done .....	8
St. Lawrence Power Project reaches completion	
Victory Over Crisis .....	10
A memorable year in pictures	
Sioux Lookout .....	16
Northern town looks ahead	
Let's Chat .....	21
With Hydro's Homemaker Service	
First Stage .....	22
Progress at new Lakeview plant	
Atoms at Your Service .....	24
Nuclear display at Royal Ontario Museum	
Half-Way Mark .....	25
Nuclear Demonstration Plant Forges ahead	
Along Hydro Lines .....	26
Capsule review of utility activities and operations	

## COVER "SHOTS"

This issue records the successful struggle that Ontario Hydro and municipal utility linemen waged to restore service to Southern Ontario electrical customers in the wake of a severe ice storm which struck the Province on December 27, 1959 (see Page 2). The front cover shows David Owen, Markham R.O.A. lineman, using a disconnect switch stick on a line in Scarborough Township, near Toronto, while our back cover provides a vivid impression of the widespread damage from ice and wind in the same area.



1063064

# YDRO NEWS

## THE HEAT'S ON

ONTARIO Hydro's Operations Division engineers and line crews have proved the truth of the old Latin proverb: Necessity is the mother of invention.

Seeking more effective means of removing ice from high-voltage transmission lines, they recently tried something entirely new as a sequel to the severe storm which struck Southern Ontario in the last week of 1959 (see page 2).

A few days later, as power lines between Barrie and Kitchener literally sizzled, they successfully completed an experiment to melt more than 600 tons of ice from two high-tension circuits.

Following a pre-arranged schedule, 1,300 amperes of electric current — twice the average normal load — were poured into the circuits from the Des Joachims Generating Station.

The eight units at the Des Joachims station had been previously isolated from the Southern Ontario Hydro System. Their output was carried at 230,000 volts over 93 miles to Minden Switching Station, then compressed into two circuits for 76 miles to the Essa Transformer Station near Barrie. Here the 1,300 amperes were fed, on two successive occasions, into two single ice-laden circuits, one at a time.

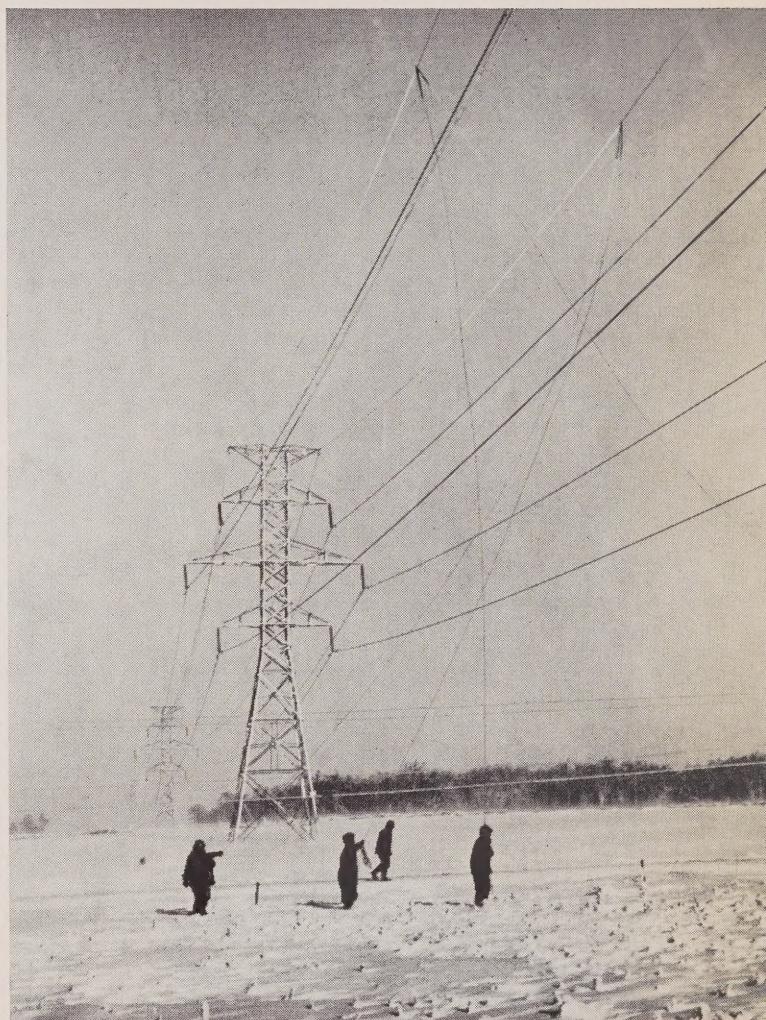
Heat in the lines melted pear-shaped ice coatings — two to three inches thick — along part of the 70-mile span between Barrie and Kitchener in about 45 minutes.

Unfortunately the experiments, never before attempted in Ontario, are not feasible on all high tension lines. But this was a fortunate case where the critical current required was available, as well as lines which could be temporarily isolated from the overall system. This type of melting couldn't be repeated on low-voltage lines — the most severely affected by the ice during the storm — without interrupting customer service.

While these experiments were in hand, other line crews were trying new methods of getting rid of ice on the ground wires atop power lines in the Orangerville Ont. area.

As these wires are cold, ice concentrations soon build

(Continued on page 31)



ONTARIO HYDRO linemen try out the new variation of the snatch block method in the Orangerville area as a cutting wind hurls snow across the wintry countryside. The linemen can be seen "see-sawing" the chains around the ground wires to rub or chew off the ice.



Municipal and Ontario Hydro line crews  
join forces to repair crippled power facilities

# STORM SAGA

by J. G. Foster

ONE of Canada's largest newspapers has suggested an anonymous candidate for the title "Man of the Year"—the Hydro lineman.

In comparing the man on the pole with such public figures as former Governor General Vincent Massey, *The Toronto Telegram* reflected Ontario's respect for the weary heroes of the last, gruelling week of 1959.

They are the crewmen from Ontario Hydro and municipal utilities who teamed up to battle an icy throttlehold on Southern Ontario and restore power to thousands of homes and farms after one of the worst electrical breakdowns in the province's history.

Each of them had to forget about home and holidays until the job was done.

Working around-the-clock shifts of 12 hours or more all week, they took on high winds, driving snow and freezing rain that sent thousands of ice-laden trees and limbs crashing down on lines. Damage to Southern Ontario's power facilities was estimated at more than \$1,000,000.

The odds seemed overwhelming, but they won.

LADEN TREES and branches were the problem confronting the army of Hydro men as they set about restoring service to 25 to 35,000 customers. Damage to Ontario and municipal utility facilities estimated at more than \$1 million.

This is the story of that great comeback by the line crews and all the men and women who helped them weather the storm crisis.

It began with widespread rain on Sunday, Dec. 27, when warm air from the American mid-West encountered a cold front stretching halfway across Canada.

Trouble came when temperatures dropped to 30 degrees or lower at night and the rain froze as it landed. Soon ice sheathed a large section of Southern Ontario.

Power lines iced up. Worse still, trees began toppling under the weight.

## Fighting Force

The alarm first sounded in Toronto Region, where municipal and Ontario Hydro crews were soon welded into one fighting force under a civil defence plan set up after Hurricane Hazel.

Four reinforcement line crews were brought in from Niagara Region overnight and two from West Central. But the West Central men soon had to return and fight trouble in their own region.

The Head Office Operations Division was alerted early Monday morning, and, as reports of line breaks snowballed, Hydro's machinery shifted into high gear swiftly to meet the emergency.

Line crews were called back from holidays and dispatched to the areas which needed them most.

Stricken areas reported to their regional line maintenance staff, who,

in turn, notified the Operations team at Head Office.

For the rest of the week, the division supplied general supervision and directed the central dispatching of men, material and equipment. Eight engineers, three technicians and two clerks under Line Maintenance Engineer T. J. Burgess kept things rolling from early morning until 10 o'clock or later at night. And when they left the office, calls kept coming in to their homes.

Much the same picture was repeated in every Southern Ontario regional Operations office except Eastern, the only one which emerged unscathed.

Severe icing conditions extended as far east as Trenton, north to Barrie, west to Windsor and into the Niagara Peninsula.

## Three-Inch Coating

A coating three inches or more thick built up on municipal feeders and rural distribution lines, where the great majority of Ontario's Hydro's breaks occurred.

On steel tower transmission circuits, ice drooped eight inches from ground wires. This meant a two-ton stress on a single span, but the high-tension network rode out the storm remarkably well.

There were many anxious hours, though, for the staff at the System Control Centre which is responsible for the network.

Their main concern was maintaining security on the Southern

(Continued on page 4)

Ontario System. Two important 230,000-volt lines in the path of the storm between the Barrie and Kitchener areas — bore the brunt of its onslaught (see page 1). Other 230,000-volt circuits between Niagara, Hamilton, Kitchener and London were also covered by the storm, but experienced only minor difficulties. A pattern of generation was set up taking into consideration what would happen if stations went out.

All units at Windsor's J. Clark Keith Generating Station were put on the line on full load, and all units at the Richard L. Hearn plant in Toronto were on line and available for emergency loading as needed.

In addition, Hydro called on the Detroit Edison Company to have steam reserve ready if necessary.

"Detroit Edison and Keith could have picked up the load almost without interruption if we had lost all the 230,000-volt lines supplying Western Ontario," said A. J. Harris, system supervising engineer.

### Single Circuit

Service to the Hamilton area hung by a single strand for several hours Monday night, with three of four 115,000-volt circuits from Burlington Transformer Station out. In addition, one of the two 25-cycle circuits feeding Hamilton industries from Niagara Falls was out for 24 hours.

However, although the high-tension situation remained critical for two days, it was responsible for only one major interruption. A line break cut off the supply to Goderich, Clinton and seven other nearby communities for 10 hours until Tuesday morning.

By that time, snow had replaced the sleet and freezing rain across most of the province, although icing continued longer in the Niagara, Windsor and London areas.

It was the line crew's first break.

As long as the rain continued, new disruptions had been appearing as quickly as they could make repairs. Now the weather was on their side.



HERE LINEMEN GRAPPLE with sagging limbs and ice-coated distribution lines at the height of the emergency in Richmond Hill, Ontario.

This was the job they faced:

- More than 32,000 Ontario Hydro customers had been without power at least six hours, many since Sunday night or early Monday.
- Counting townships and municipal electrical utilities with whom Hydro was co-operating, the total was probably more than 100,000 customers.
- No accurate total could be reached for shorter interruptions, but a good guess would be 125,000 including Hydro's rural systems and municipal utilities.

### Regional Summary

Region by region, this was the picture on prolonged Ontario Hydro interruptions:

**TORONTO:** The hardest hit. About 40 per cent of all customers out in northern and eastern Metropolitan Toronto and nearby rural Hydro systems. For Ontario Hydro, this meant some 13,500 customers in the Woodbridge, Richmond Hill, Brampton, Markham and Sutton areas. But the situation was even worse in Metro itself, where 25,600 customers were blacked out in North

York and 24,800 in Scarborough.

**GEORGIAN BAY:** Second worst trouble spot, with some 9,000 Hydro customers affected. In the Orangeville area, an estimated 4,000 had been without power since shortly after midnight Sunday. Interruptions were also widespread around Shelburne and Uxbridge.

**WESTERN:** About 4,500 customers in the Exeter, London, St. Thomas, Aylmer, Dorchester, Beachville and Tillsonburg areas. All but 900 were back to normal Tuesday (December 29). These were around Beachville and Tillsonburg, each of which had originally reported about 1,000 out, and they had service restored Wednesday.

**WEST CENTRAL:** Some 2,500 customers, most of them back to normal Tuesday except in the Simcoe and Cayuga areas, which were cleaned up by Thursday.

**EAST CENTRAL:** By noon Tuesday, service was restored to all 2,900 customers in the Bowmanville, Oshawa, Cobourg and Peterborough areas.

**NIAGARA:** Although ice and winds caused trouble on high-volt-



THIS SCENE of destruction was recorded in an industrial area of Scarborough Township as crews replaced poles snapped by the weight of ice-laden lines.



SAFETY PRECAUTIONS prevented accidents despite hazardous conditions. This crewman is working near Orangeville.

age circuits, there were no breaks on low-voltage lines to interrupt service to municipal or rural customers.

By mid-week, therefore, Hydro's forces were concentrated around Toronto and Orangeville. Crews from other areas and regions hadn't gone home when they cleaned up their local trouble — in fact, they moved farther from home to the remaining trouble spots.

#### Man of the Hour

The lineman was man of the hour to all the shivering householders who were struggling to get by without electricity—and learning how much they depended on it.

As the lines fell, sales zoomed in stores that sold anything to provide heat or light. Although emergency shelters were opened for residents around Metropolitan Toronto, most of them preferred to move in with relatives or friends who had power, or to grin and bear it at home until things were normal again.

Hydro crews gave first consideration to hospitals, homes for the aged and vital areas where even a temp-

orary loss of power could prove drastic.

They helped move critically ill patients to hospitals and used their radio-equipped trucks to contact doctors or welfare agencies as they were needed. In Scarborough, one crew helped rush an iron lung patient to hospital after a failure in the patient's home.

A special effort was made to avoid losses to dairy farmers, hatcheries, greenhouses, water pumping stations and factories depending on a steady flow of electricity.

In this well-planned and co-ordinated attack, the linemen had plenty of backing.

For the first time since Hurricane Hazel struck in 1954, Hydro's Head Office switchboard operated on an emergency basis 24 hours a day. Extra operators kept many lines going simultaneously to help the clean-up operations and handle calls from customers.

A night watchman took over from a lady operator one night to help out at Head Office.

In area and municipal offices, operators had assistance from clerks,

inspectors and other staff members in explaining the situation to customers and receiving trouble reports.

People seldom blamed Hydro for their hardships, thanks in large measure to a successful press and public relations job by the Information Division in telling the story of the struggle to restore power.

#### Progress Reports

Progress reports flowed steadily to the press, radio and television all week, day and night. These were augmented by television and radio interviews, photographs and newsreel film that told of Hydro fighting back.

Regional information officers co-operated with local reports and also relayed information on overall developments from Head Office.

This program, combined with municipal utilities' reports, not only forestalled complaints but encouraged warm editorials and letters of praise in papers across the province.

But the spotlight, of course, was on the men in the front line.

About 75 per cent of them were  
(Continued on page 6)

linemen, aided by 132 Construction Division employees and a brigade of Hydro's trained foresters, who were especially equipped and qualified for removing dangerous tree limbs.

Their average shift was at least 12 hours.

Many worked stints up to 18 hours, but care was taken that nobody stayed on the job without rest to the point where his efficiency or safety would be affected.

Proof of the value of such precautions coupled with safety training was that only one of Hydro's 1,300 men in the field was involved in an accident. A St. Thomas area line crewman received a shock from a loose line and was taken to hospital, but released after examination.

#### Few Accidents

"We can congratulate ourselves that even under the stress of storm conditions accidents are few," Mr. Burgess said. "This speaks well for the morale of our men and the way they carry out their work."

Morale couldn't have been better. Or, if you want, call it courage, or determination, or sense of duty.

Take Alex York, a foreman. He was on vacation in his home town, Morrisburg, when he heard of the trouble early Monday. He called the Eastern regional office, volunteered to work and wound up in Orangeville. Exactly one week later, heading home, he got as far as Oshawa, heard that he was needed again, and went back on duty.

Or take Foreman Fred Murray, of Ottawa, and his crew. They had almost finished a day's work Monday when they were dispatched to Richmond Hill late in the afternoon. Motor trouble delayed their arrival until Tuesday morning, but they went on the job and stayed until after midnight. The next day they were on the lines again at 7 a.m.

Or George (Monty) Montgomery, the veteran Scarborough foreman who, for at least two days, refused to leave his job as a dis-

patcher, and of whom Scarborough P.U.C. Manager Ron Harrison remarked, "Some fellows have Hydro in their blood."

There were as many stories of that sort as there were men on duty.

In the all-out drive to clear up the last remaining trouble spots, an estimated 900 men blitzed the Toronto Region. Ontario Hydro crews came from as far as Ottawa and Timmins to reinforce some 200 Toronto Region employees and about 400 others from neighboring municipalities.

Their movements were co-ordinated by the region. This was the first major test of a four-year-old emergency agreement between Hydro, the A.M.E.U. and civil defence authorities. It went like clockwork.

First they restored service to the Sutton area, then moved on to Markham and Woodbridge.

That virtually cleaned up Toronto Region, thanks to the close co-operation between regional and municipal staffs, who had mean-

NEIGHBORLY MUNICIPAL UTILITIES sent their crews to help in the all-out drive to repair broken lines in the Toronto Region. In the accompanying photographs, trucks and linemen from Etobicoke Township H.E.C., Oakville P.U.C., Milton H.E.C. and Toronto Hydro System brave icy winds and driving snow in the final clean-up after the storm.



while restored power to more than 50,000 customers in the townships of North York and Scarborough.

### Georgian Bay Recovers

Georgian Bay Region, hampered by a communications breakdown which interfered with work all week, was the last to struggle to its feet.

On Monday the Markdale, Stayner and Cannington areas came back on, and by Tuesday the Orillia area.

Wednesday saw service fully restored to the last of 2,250 customers in the Uxbridge area, 1,500 around Shelburne, and others in the vicinity of Alliston and Barrie.

The final battleground was the Orangeville district, where a work force of 300 had been assembled from points as far north as Timmins, as far east as Vankleek Hill.

Sixty trucks of various size were also scattered through the area's 528 square miles. The A. W. Manby Service Centre, as it had through-

out the crisis, acted as a supply depot to keep the task force of line trucks and crews equipped and moving, while the regional auto mechanics and radio technicians worked long hours on emergency maintenance.

Linemen also were aided by two of the three Hydro helicopters which were on storm patrol through the week, and the linascopic, which helped detect high-voltage trouble and test repaired lines before they were placed in service.

By Wednesday, 2,500 of the original 4,000 blacked-out rural customers had power again, and only 800 were still without electricity New Year's Eve. By then the town itself was almost back to normal.

Mrs. Robert O'Hare was probably the happiest person in town when she got electrical service back after four days of trying to keep warm and cook on an old coal stove. Shortly after, knowing her husband and four children would manage all right, she went to hos-

pital and gave birth a little past midnight to Orangeville's first New Year's baby.

The return to normal made it an extra-happy New Year's Eve for thousands of others in the district, too, but most of the linemen were too tired to stay up and greet 1960 with a yawn.

It was a quiet, lonesome night in their motel rooms and bunk trailers.

### Orangeville's "Thank You"

But on New Year's day, Orangeville said thanks.

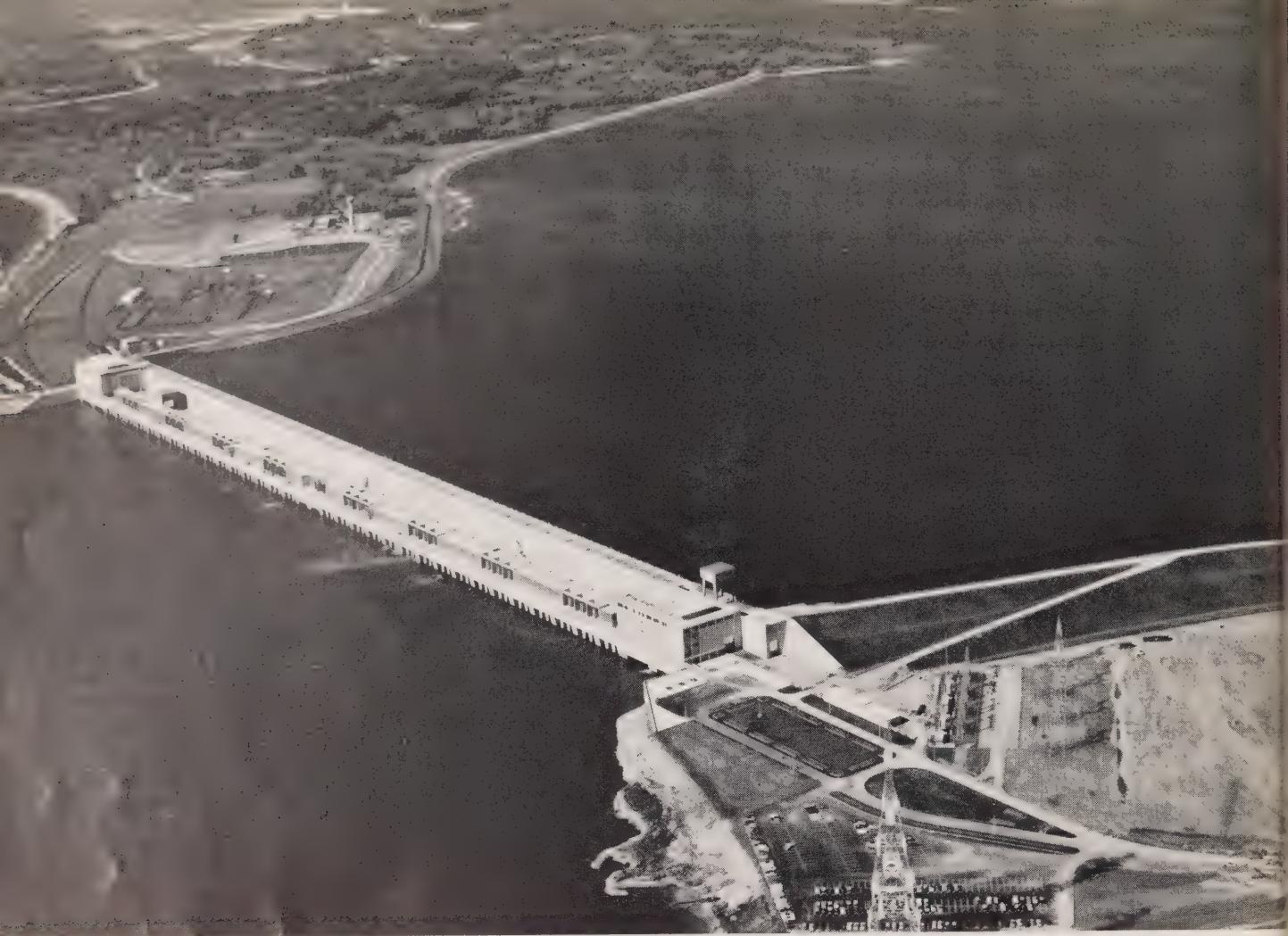
A special party and buffet supper in their honor was organized in the Canadian Legion Hall with the aid of the local chamber of commerce and service clubs.

In expressing the people's gratitude, Mayor John A. Maude saluted the linemen for "the wonderful job you have done and are doing."

Foremen Charlie Stone and Ralph Markies were nearly speechless — literally. After working almost non-

*(Continued on page 31)*





AERIAL VIEW of the adjoining powerhouses, with Ontario Hydro's Robert H. Saunders-St. Lawrence Generating Station in the foreground. Visible in the left background is the Long Sault dam, a curved axis structure, 2,250 feet long, with a maximum height of 145 feet.

### Construction forces

complete

### St. Lawrence Power Project



ILLUMINATION and the darkness of night endow the powerhouses with a certain drama and mystery.

ONTARIO HYDRO NEWS

# THE BIG JOB'S DONE

As 1959 drew to a close, one of Canada's largest engineering projects reached a successful conclusion.

Five years and four months after the first sod was turned, the 16th and final unit in Ontario Hydro's Robert H. Saunders-St. Lawrence Generating Station was brought up to full load, and began feeding power into the Commission's Southern Ontario System.

Built in partnership with the Power Authority of the State of New York, the \$600,000,000 project constituted one of the most colorful chapters in the history of the Province. The two agencies shared the cost and now share its electrical capacity of 1,880,000 kilowatts.

Perhaps no development in the history of the North American Continent has aroused such controversy or interest. Ontario Hydro began studying the river's power possibilities in 1913. But it was not until June 7, 1954, that all legal difficulties were cleared away by the decision of the United States Supreme Court confirming the Power Authority of the State of New York as the United States agency in the large hydro-electric project.

From that day on, both bodies moved forward rapidly. First tenders for the construction were called in July, 1954. On August 10, 1954 — the 419th anniversary of the river's discovery and naming by the French explorer, Jacques Cartier—

sod-turning ceremonies officially launched the project amid international celebrations.

## Amazing Transformation

In subsequent months, the International Rapids Section of the St. Lawrence, which originally covered 47 miles of rapids and swiftly-moving water between Chimney Point and the head of Lake St. Francis, underwent an amazing transformation.

A peak working force of some 12,500 persons moved into the area as construction gained momentum on three principal structures: the adjoining powerhouses, which stretch between the Canadian main-

*(Continued on page 32)*



LOCATED 25 miles upstream from Long Sault dam, Iroquois dam 2,540 feet long and 67 feet high, controlling water outflow from Lake Ontario.



MODERN SHOPPING FACILITIES and multiple housing units were built in the relocated section of Morrisburg, one of eight communities affected by the flooding.

# VICTORY OVER CRISIS

ONTARIO Hydro ended its biggest year in a record-breaking decade with a week-long battle to restore electrical service after one of the worst ice storms in the history of the province (see page 2).

In the last week of 1959, as many as 1,300 linemen worked day and night to repair crippled power facilities in Southern Ontario after one of the most severe ice storms on record toppled thousands of trees across vital power lines.

Although 25,000 to 35,000 customers were blacked out for prolonged periods and damage to Ontario Hydro and municipal utility facilities was estimated at more than \$1,000,000, the clean-up was all but over by New Year's day.

Entering the decade of the sixties, Canada's largest electrical utility could also look back on a year in which it completed two of the biggest engineering jobs it has ever

undertaken and took a major step towards the coming era of nuclear-electric power in Ontario.

During 1959 Ontario Hydro:

- Finished the 10-year frequency changeover program, largest engineering job of its kind anywhere in the world.
- Completed the St. Lawrence power development (see page 8), which Queen Elizabeth II visited on June 27.
- Announced plans to co-operate in the construction and operation of Canada's first full-scale nuclear power station.
- Put into service a record total of new generating capacity for the second consecutive year as demands for electricity climbed at a near-record rate.

Electrical consumption is an important indicator of economic trends and during 1959 power demands on

Hydro's three systems grew at a high rate — reflecting the upsurge in the province's economy.

Peak demands in December climbed to 5,569,000 kilowatts, 8.4 per cent above the previous year's high. At the end of 1959, Hydro's power resources totalled 6,155,000 kilowatts.

Construction of new facilities to meet Ontario's steadily-increasing power requirements continued at a rapid clip with estimated capital expenditures of \$167,000,000. Total assets reached approximately \$2,500,000,000.

Nearly 1,000 miles of rural distribution line and 270 miles of transmission line were added to provincial power networks. At the end of the year, 1,826,000 customers were served by Ontario Hydro or its member utilities, an increase of 69,200 from 1958. Included in this total were 491,900 rural customers,

HER MAJESTY, QUEEN ELIZABETH II, unveiled the International Friendship Monument at the St. Lawrence Power Project on June 27, 1959. Present at the ceremony also were H.R.H. Prince Philip, and U.S. Vice-President, Hon. Richard Nixon and Mrs. Nixon.



## RETROSPECT

up by 19,300 over 1958.

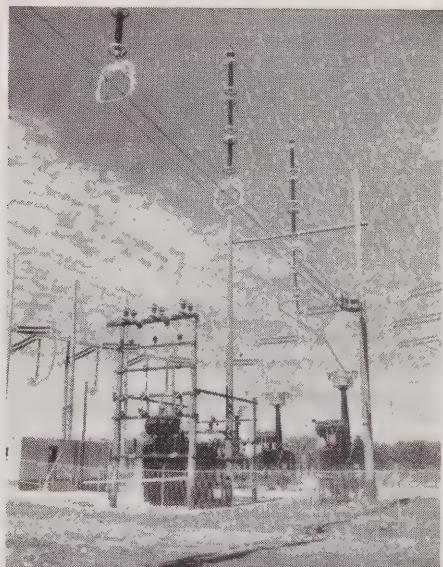
At the end of 1959, the Commission was operating 68 hydroelectric and two major thermal-electric stations. Power to meet nearly 90 per cent of Ontario's electrical requirements was being delivered over 17,800 miles of transmission line and 47,400 miles of rural distribution line.

Some 820,000 kilowatts of new generating capacity was placed in service at four plants. Six projects with a combined capacity of over 2,100,000 kilowatts costing \$350,000,000 were under way.

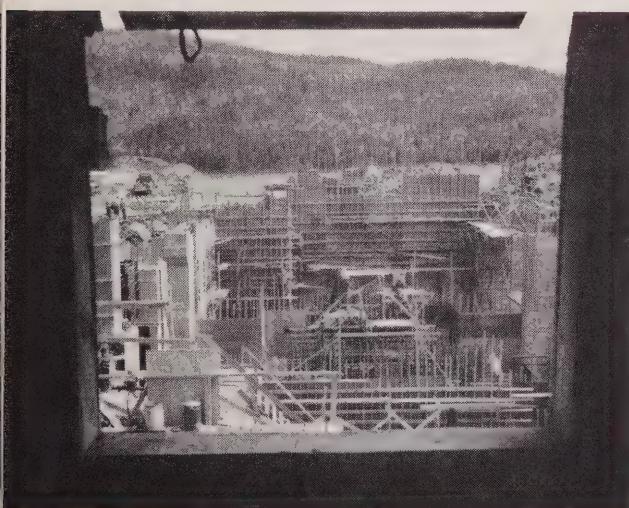
During the 60s, demands and resources are expected to double. The next 10 years will see nuclear energy begin to play an important role in meeting Ontario's electrical needs, which, by the end of the decade, are expected to call for total power resources in excess of 11,000,000 kilowatts. ■



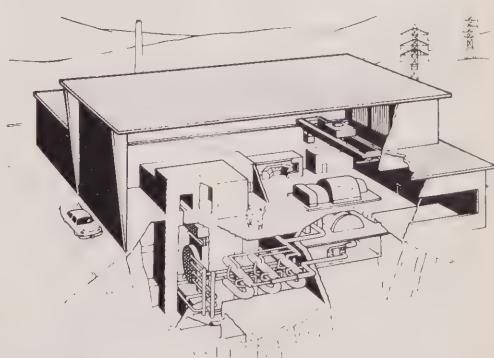
ONTARIO HYDRO CHAIRMAN James S. Duncan and Toronto Hydro Chairman Bert Merson watched as a technician made final adjustments on a home freezer unit as Hydro's frequency standardization program was completed in a Leaside home on July 9.



EXPERIMENTS were begun on a section of special, extra-high voltage line near Orillia to determine the most economical conductor arrangement for long-distance power transmission.



ARTIST'S CONCEPTION of CANDU reactor to be installed in the Douglas Point nuclear-electric station. Ontario Hydro is co-operating in construction of the plant.



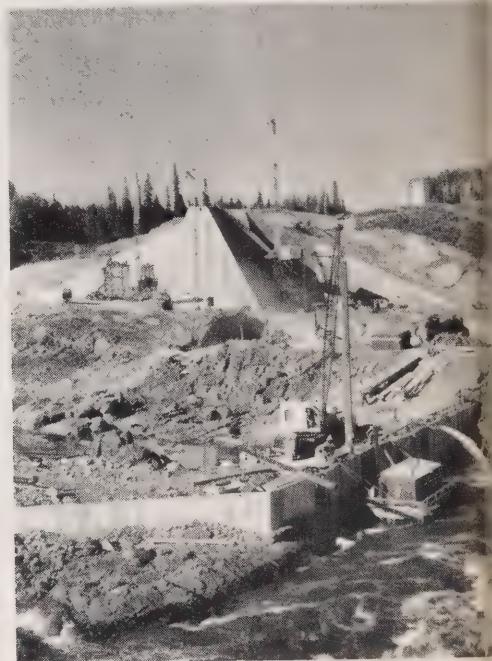
DURING the past year, construction of the Nuclear Power Demonstration (NPD) project—Canada's first nuclear-electric station near Rolphton, Ontario, reached the half-way mark—see page 25.



CONSTRUCTION at Hydro's Red Rock Falls 38,000-kw development on the Mississagi River made successful headway during 1959.



INSTALLATION of a 45,000-kw unit at the upstream Abitibi Canyon station was completed.



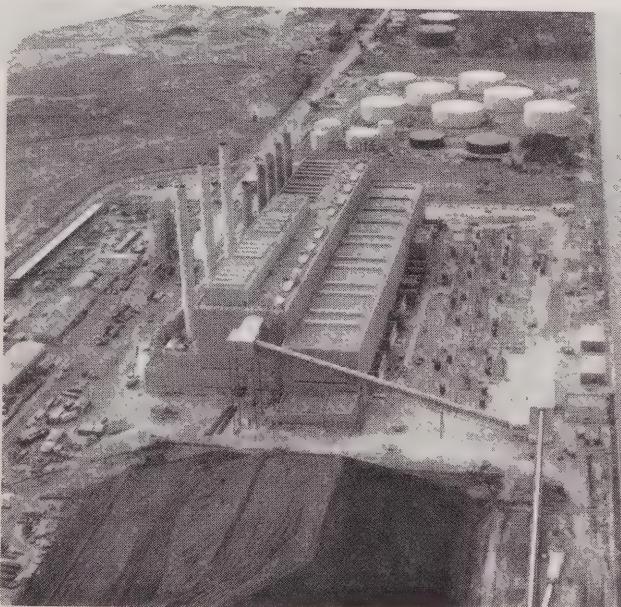
MEANWHILE, building of the 131,000-kw Otter Rapids plant on the Abitibi River, 93 miles north of Cochrane, was forging ahead.



NORTHWESTERN ONTARIO saluted the formal inauguration of the 45,000-kw Silver Falls Generating Station on the Kaministikwia River in 1959.



PART OF THE FOUNDATIONS of the boiler house for Hydro's new Thunder Bay Generating Station is visible in the photograph. Scheduled for service in 1961, the thermal-electric plant will have an initial capacity of 100,000 kilowatts.



FOUR ADDITIONAL 200,000-kw generators are being installed at the Richard L. Hearn thermal-electric station on Toronto's waterfront. The first of these new generators went into service in April, 1959. The remaining units will be completed this year, giving the plant a total capacity of 1.2 million kw.

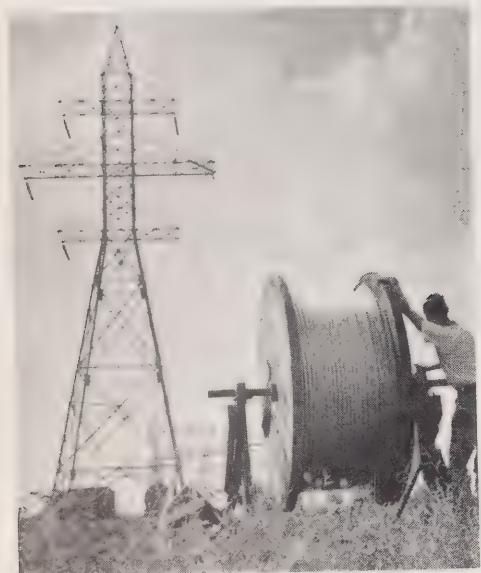


A SIGNIFICANT EVENT of 1959 was the appointment of J. M. Hambley (centre) as Ontario Hydro's General Manager. He is shown with his predecessor, A. W. Manby (left), who retired on Dec. 31, being congratulated by Chairman James Duncan in the Commission's board room.



NEARLY 1,000 miles of rural distribution line were added to the Hydro network in 1959. By the end of the year, Hydro was serving 491,900 rural customers—an increase of 19,300 over 1958.

HYDRO'S important System Control Centre, which regulates the operations of the high-voltage network of the Southern Ontario System was moved from Head Office in Toronto to Richview Transformer Station near Malton, Ont.



APPROXIMATELY 270 miles of new transmission line were built by Ontario Hydro last year.



A SCIENTIFIC HIGHLIGHT of 1959 was the inauguration of the new swimming pool reactor at McMaster University in Hamilton, Ont.



OPENING of the St. Lawrence Seaway last year brought a boom in traffic to Toronto's harbor, which became a seaport on April 27.



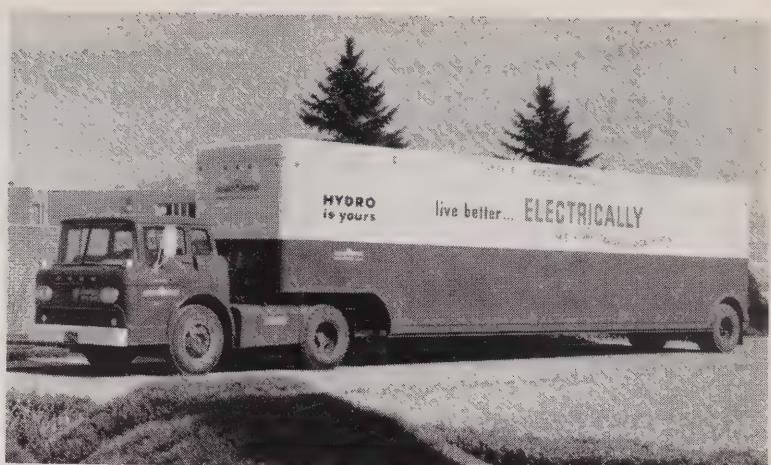
HERE Nick Durbano, owner and builder of Etobicoke Township's first all-electric Gold Medallion home, proudly points out the fuse panels to Hydro Chairman James Duncan and Etobicoke Hydro Chairman Dr. V. S. Wilson.



ONTARIO HYDRO NEWS



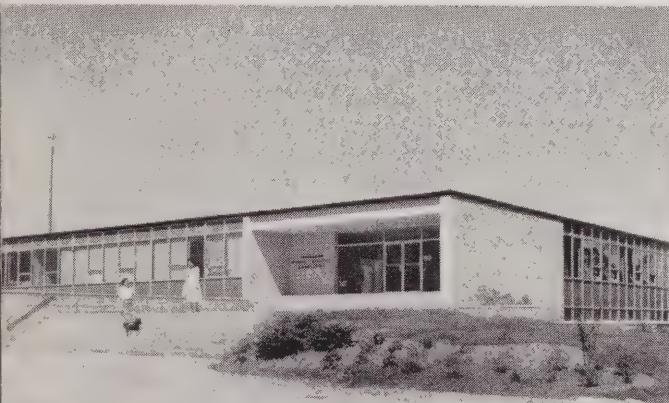
CROWDS THRONDED Ontario Hydro's model, all-electric home during last year's C.N.E.



RECALLING the days of Sir Adam Beck's first travelling circus (circa 1912), Hydro's new demonstration trailer took to the roads to demonstrate the advantages of electrical living.



XPANSION of municipal electrical systems was indicated by completion of several new utility buildings, including Port Colborne (above) and Trafalgar Twp. (below).



W. ROSS STRIKE, Hydro's first vice-chairman, presents elementary school cup to champion Christine Reilly during the finals of the jointly-sponsored OSTRA-Ontario Hydro public speaking contest held in Toronto.



# SIOUX LOOKOUT

*The town with the optimistic outlook*

SET in the beautiful lake country of Northwestern Ontario, Sioux Lookout is bisected by the main line of the Canadian National Railways. On the right is Pelican Lake, one of more than 2,100 lakes in the vast surrounding forest land.



**SIOUX LOOKOUT**  
POPULATION 2,300  
SPEED 30 LIMIT

by Peter Maitland



TOWN'S neat front street boasts modern stores, restaurants and hotels, which parallel the C.N.R. freight yards and the main line to Winnipeg. Present population is approximately 2,300.

**H**ARRY BADGER, retired railwayman and unofficial historian of Sioux Lookout, recalled an old sweetheart:

"She was a great old girl," he chuckled. "Worked 19 hours a day, seven days a week, and only shut down for a few hours in the middle of the night."

Mr. Badger went back a good spell of his 88 years to recall the days when he operated the old stationary steam engine, which once was the sole source of electricity for this Northwestern Ontario community.

"She was 180 horsepower and had a 14-foot flywheel. I worked the midnight to eight shift. At two o'clock every morning I'd shut down the steam to check her over, and then start her up again at seven."

The spry and alert octogenarian operated the steam engine from 1925 until his retirement in 1936, three years before electric power from Ontario Hydro's Ear Falls Generating Station, 70 miles to the

northwest, replaced the output of the wheezing antique in the Canadian National Railway roundhouse.

The cost of power in those days was almost prohibitive — 10 cents a kilowatt-hour. As a result, residents used it almost exclusively for lighting purposes, and their average monthly consumption was about 11 kw-hrs.

Today, the average unit cost of electricity has dropped below 1.5 cents and residential customers of the Sioux Lookout Hydro-Electric Commission use on the average 461 kw-hrs a month, above the provincial average.

The debt-free local commission, which includes Commissioners Wesley Houston, A. T. Houston, Mayor Alex Hannah and Secretary-Treasurer Tauno Hautala, serves 783 domestic 126 commercial and 18 power customers over 21 miles of distribution line. Secretary-Treasurer Hautala supervises a staff of

*(Continued on page 18)*



**SIOUX LOOKOUT** is a jumping-off point for sportsmen heading into the surrounding lake country which is noted for its fish and game. These fishermen took their canoe with them, strapping it to the aircraft float.



four which operates three trucks.

Old timers have seen a great many changes in Sioux Lookout since the settlement first grew up along its stump-lined front street shortly after the turn of the century. Founded as a divisional point on the Grand Trunk Pacific Railway (now the CNR), and incorporated in 1911. Sioux Lookout was known chiefly as a railway town during its first dozen years of existence.

### Gold Discovery

With the discovery of gold in the Red Lake district in the 1920s, the town and the nearby community of Hudson became busy transportation centres for men and equipment moving north. Water cargoes in the summer and tractor hauls in the winter threaded through the lake country. Many of the colorful figures of Canadian aviation began their bush flying days from Sioux Lookout.

The completion of a highway to the south in 1935 opened up the wilderness land to sportsmen and sightseers, and the tourist industry started to grow in importance.

With a present population of around 2,300, Sioux Lookout now is in a period of transition. The tourist business continues to increase as a source of income, but the transportation industry was cut drastically with the construction of a highway to the Red Lake area in the late 1940s.

The railway, long the town's basic industry and its largest employer, is gradually reducing staff as its dieselization program approaches a conclusion.

But on the horizon is a new industry, which could transform Sioux Lookout into a boom town almost overnight — a paper mill to develop the rich timber resources lying to the north. The Anglo-Newfoundland Development Company Limited holds options on timber rights in the surrounding district and is presently building access roads.

In addition, prospecting is on the increase in the mineral-rich barren lands, and new base metal discoveries could herald a resumption of the traffic which once made Sioux Lookout the gateway to the north.

A hard worker for the town and a great believer in its future development is Mayor Alex Hannah, a former hard rock miner and mine captain in Northern Ontario and Manitoba. This dynamic chief magistrate, now a CNR locomotive engineer, was returned to office by acclamation in November 1959, for his fourth consecutive term.

Citizens like Mayor Hannah exemplify the dynamic confidence in the future, which makes Sioux Lookout a town with an optimistic outlook.

### Transcontinental Line

Sioux Lookout (residents pronounce Lookout with the accent on the second syllable) is situated on Pelican Lake, about 750 miles north west of Toronto and 250 miles east of Winnipeg. The town's neat front street of stores, restaurants and



PINETREE LINE radar station, atop nearby Sioux Mountain, scans the skies over the area stretching northward to Hudson's Bay.



FEDERAL INDIAN HOSPITAL is the administrative centre of a chain of nursing outposts. Nurse Eleanor Hirtzeroth admires patients' handiwork.

hotels parallels the CNR freight yards and the main line to Winnipeg.

It's a community, in fact, that has always had its eye on the future. Civic improvements since the Second World War have made Sioux Lookout a modern municipality in every respect. A water and sewage system services most sections. Town fathers boast that the modern sewage disposal plant was the first built in Northern Ontario. A 51-bed general hospital, owned and operated by the town, was opened in 1951, and a new high school of modern design was completed three years later. A golf course, arena and curling rink round out the town's recreational facilities.

The Canadian Government operates a 65-bed Indian hospital, which is also the administrative centre for a chain of field nursing stations covering a wide area.

To the west, across Pelican Lake, stands Sioux Mountain, the highest point of land within 60 miles. Atop the mountain is a Pinetree Line radar station, manned by the United

States Air Force. About 20 married airmen live in Sioux Lookout with their families, and the station has meant a good deal to Sioux Lookout's economic health.

#### Indian Legend

According to legend, local Indians once used the mountain as an outpost to guard against surprise invasions of Sioux Indians from the south. This name, Lookout for the Sioux, was reversed to Sioux Lookout when the town's name was chosen.

Hydro Commissioner Tom Curtis, a retired CNR switchforeman, who has lived in Sioux Lookout since 1915, has seen the town survive some tough days. As mayor from 1931 to 1934, he led his community through the worst part of what he calls the "Hungry Thirties."

Veteran railwaymen like Mr. Curtis grow wistful when they talk of the days of the mighty steam locomotives. Now "in tallow" in the half-light of the roundhouse, these valiant iron horses are silently awaiting the blow torch.

"The old steamers are disappear-

ing fast," remarked one veteran. "There must be a dozen in the roundhouse. But you can't stop progress."

The flat honk of the diesel has replaced the piercing whistle and black smoke of the ponderous steam engines, and some predict the resulting drop in employment means hard times for Sioux Lookout.

But the more prevalent attitude, especially among members of the younger generation, is that things have never been better.

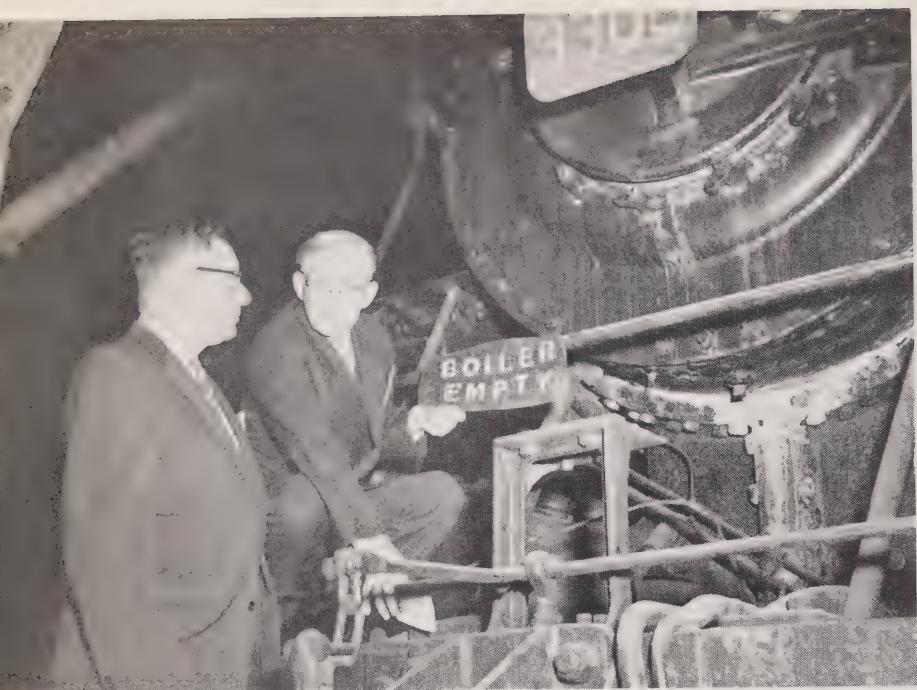
#### Timber—Key to Future

Their optimism is bolstered by the huge tracts of virgin timber lying north of the railway line, a natural resource which may prove to be the key to Sioux Lookout's future prosperity.

Wesley Houston, Chairman of the Sioux Lookout Hydro and owner and publisher of the *Daily Bulletin*, Canada's only mimeographed daily newspaper, thinks the town has a future — and a bright one.

Mr. Houston, who came to Canada from Belfast in 1930 as an

(Continued on page 20)



RETIRED STEAM ENGINE is wistfully surveyed by Mayor Alex Hannah, C.N.R. engineer (left), and Sioux Lookout Hydro Commissioner Tom Curtis, retired switch foreman.

PUBLISHER of Canada's only mimeographed daily newspaper, Wesley H. Houston is Chairman of Sioux Lookout Hydro Commission and former Hudson's Bay fur trader.



apprentice fur trader with the Hudson's Bay Company, worked all over the Canadian north before buying the newspaper in 1955. Sioux Lookout was as far south as he wanted to go.

Mr. Houston is convinced that the area's natural mineral and forest wealth and tourist attractions assure its prosperity.

Citizens like Bill Fuller, local automobile dealer and service station operator, are equally confident that the construction of a paper mill is inevitable. It's just a matter of time.

"The area north of here is the last great untapped source of pulp in Canada. If operations are properly planned these almost unlimited timber stands will never be depleted," he explained.

Mr. Fuller has lived in the town for 24 years, and he believes the importance of the tourist industry will grow even more. New roads to the north will open up wilderness country that abounds in game for the sportsman.

In the meantime, the town's economy seems to be running fairly smoothly. One of the local utility's industrial customers, the Canada Creosote Company, operates a railway tie creosoting plant just outside the town limits. The plant runs three or four months of each year, and provides part-time jobs for 55 or 60 men. Other small businesses and building projects have kept employment reasonably steady.

Commented one young carpenter working on a new building at the nearby station of the Ontario Department of Lands and Forests: "Just about everybody who wants a job has got one."

His attitude is typical of the friendly and self-reliant people of Sioux Lookout.

Their spirit is best exemplified by the business acumen of local merchants and property owners.

"They want 15 prices for a piece of front street land," commented one citizen. "They figure that timber out there is going to make Sioux Lookout a real boom town some day and I guess maybe they're right." ■



# LET'S CHAT

with Lois Hurst of Ontario Hydro's Homemakers' Service



**W**HAT'S for lunch, Mum?" Rosy-cheeked youngsters dash into the house, appetites kindled by the walk home from school on a wintry day.

Many a homemaker finds herself quite uninspired when it comes to preparing lunch. We are eternally grateful to the Earl of Sandwich for his invention of a piece of meat between two slices of bread. Indeed the sandwich is the basis of many a lunch, in a box or on the table at home — winter or summer. Lowly though it may seem, a sandwich with meat, fish or egg filling is the backbone of a satisfying and nutritious meal, especially with a raw vegetable, fruit and milk.

School days are take-a-lunch days for so many youngsters now. Working mothers in cities make box lunches for their children to eat either at school or at home. Pupils from rural areas travel by bus, too far to go home at noon.

Very little imagination is needed to prevent monotony in packed lunches. Eye-appeal can be improved by using transparent wrap or aluminum foil, which keeps the contents fresh. Cut the sandwiches into squares, triangles and strips, scaled to the size of small mouths. Combine white and brown bread. For a dash of color and added enjoyment, tuck in short cheese-filled celery stalks, carrot slices, radish roses or turnip sticks.

Making sandwiches every morning can be a humdrum chore for some housewives. Why not prepare them on a once-a-week assembly line basis, and store them in the freezer section of your electric refrigerator. Packaged individually in moisture-

vapor-proof wrapping, lunches will be properly thawed by noon-time, and will be mighty delicious eating.

A variety of sandwiches, such as sliced or minced meats, fish, chicken, processed and cream cheese, baked beans, cooked egg yolk and peanut butter, can be frozen. Not

days. A wide-necked thermos is ideal for spaghetti, macaroni, baked beans or chili con carne.

As a change from sandwiches, use devilled eggs, foil-wrapped wedges of cheese, a piece of fried chicken or perhaps sticks of meat loaf or canned meat. Then wrap a buttered



all fillings are satisfactory. Hard-cooked egg white becomes rubbery and tough; mayonnaise tends to curdle; lettuce and celery lose their crispness. To moisten fillings, dairy sour cream, milk, catsup, fruit juice, chopped pickle and applesauce are all suitable for freezing.

If the youngsters can buy milk at school, hot soup in a thermos bottle is especially welcome these wintry

roll separately, and include some salad. Plastic cartons with snap-on lids make it easy to carry applesauce, baked apple, canned fruits, orange and grapefruit sections.

No lunch is complete without a small dessert. Raisins, fresh dates, prunes, dried apricots and marshmallows are usually welcome changes from the usual cookies or cake.

*(Continued on page 32)*

Construction started at Hydro's Lakeview plant

# FIRST STAGE



SINEWS of steel weave an arresting pattern against the sky as the first stage of construction proceeds at the site of Ontario Hydro's Lakeview Generating Station, immediately west of Toronto. This stage involves the erection of some 6,700 tons of structural steel to build the framework over the first two units.

Destined to become one of the world's largest thermal-electric plants, the Lakeview project is taking shape on a 128-acre site on the shore of Lake Ontario in Toronto Township. By the mid-sixties, at an estimated cost of \$250,000,-



ERCTION of steel for the new plant, which will have a total capacity of 1.8 million kilowatts when completed in 1964.

BOILERS to generate steam for Ontario Hydro's new Lakeview Generating Station are almost the same height as the Commission's Head Office in Toronto. Two of the giant, 190-foot-high boilers, which will be capable of producing two million lbs of steam and will consume 100 tons of coal per hour, are being manufactured at Galt, Ontario, by Babcock-Wilcox and Goldie-McCulloch, Limited.

000, it will have a capacity of 1,800,000 kilowatts — equal to the estimated potential of all remaining hydro-electric sites in the province considered capable of economic development.

Present plans call for completion of the first 300,000-kw generator by 1961 and another in 1962. The first two steam-turbo generators for the plant were ordered in 1957. On December 24, 1959, Ontario Hydro announced the award of a contract valued at approximately \$8.8 million to Associated Electrical Industries of Canada Limited for two additional 300,000-kw units

scheduled to come into operation in 1963 and 1964.

#### Manufactured in Canada

A substantial portion of these units will be manufactured in Canada by the Canadian General Electric Company at Peterborough under an arrangement between that Company and the Canadian subsidiary of Associated Electrical Industries in the U.K. The tendered price of Associated Electrical Industries of Canada Limited was materially less than any of the other five tenders received.

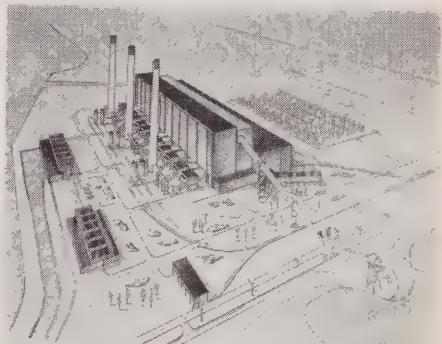
While larger units are under de-

velopment in both the U.K and the U.S.A., these units will be comparable to the largest now in service anywhere in the world, and will involve a wide variety of manufacturing skills and plant facilities.

The placing of this order marks the second step in the development of Canadian manufacturing capacity in the important field of power system steam turbo-generators. In 1958 an order for a 100,000-kilowatt turbo-generator for the Commission's Thunder Bay plant was undertaken by the John Inglis Company for partial manufacture in its Scarborough plant. ■



AERIAL VIEW of the 128-acre site on Lake Ontario, west of Toronto. Visible in the centre background is the cooling water intake channel formed by a rock breakwater (left) and a parallel causeway (right), which, with a dock for unloading coal freighters, will extend 2,300 feet into Lake Ontario. In the left foreground are partial foundations for the discharge channel.



ARTIST'S CONCEPTION of the completed plant, which will be 963 feet long and 192 feet high, approximately the same height as a 22-storey office building. Each of the big plant's stacks will tower to 490-feet.



THESE WORKMEN are joining 12-ton sections of concrete pipe, each 8 feet in diameter, which will carry water from Lake Ontario for the station's condenser cooling system.

# ATOMS AT YOUR SERVICE



RADIOACTIVE WAND cuts the ribbon as Hon. Robert Macaulay opens the nuclear show while Prof. D. G. Andrews, University of Toronto (centre), and H. M. Turner, Royal Ontario Museum, look on.



ONTARIO HYDRO'S pioneering role in Canada's nuclear-electric development program was highlighted in this wall diagram.

WITH a wave of an atomic-age wand, Hon. Robert W. Macaulay recently opened a doorway into the wonderland of peaceful nuclear developments.

The wand's radioactive tip caused a detector to break an electromagnetic circuit, a red ribbon dropped, and "Atoms at Your Service" went on display at the Royal Ontario Museum in Toronto.

Mr. Macaulay, Ontario's minister of Energy Resources and Ontario Hydro's second vice-chairman, also announced plants for a conference in Toronto on the future of uranium and atomic energy in Canada.

He expressed the Ontario Government's concern over the announcement that Britain and the United States will not extend contracts with Canadian uranium producers beyond 1963, and added:

"I want labor to know what management faces, and I want management to know what labor faces . . . if we don't face the facts, work together and keep costs to the minimum, the world of nuclear energy and uranium will pass Canada by and the world will buy reactors and uranium elsewhere."

"I want the consumer to know just how far off or how close is the

golden age of nuclear energy, depending upon what the facts of the matter are."

The "golden age" and today's realities merge in the display, which shows Ontario Hydro's partnership in the building of Canada's first nuclear power stations.

A scale model shows the basic design of the initial plant — the NPD (Nuclear Power Demonstration) project on the Ottawa River, scheduled for operation next year.

Within four years, NPD will be followed by the first full-scale nuclear station, CANDU (Canadian Deuterium Uranium), near Kin-



THREE VISITORS examine a scale model of a horizontal pressure tube reactor on display.



COBALT BOMB for cancer treatment attracted Mr. Macaulay's attention.

cardine. An artist's conception of CANDU is accompanied by an explanation of the way its output will be incorporated into Hydro's existing transmission network.

Other displays by the 14 participating organizations include a "cobalt bomb" cancer therapy machine, models of uranium mills, and samples of ore and metal.

When the show closes in March, between 50,000 and 100,000 visitors will have inspected it. From displays of the relics of antiquity, they have entered the world of today and tomorrow — Atoms at Your Service.

—by J. G. Foster

# HALF-WAY MARK



CONSTRUCTION of Canada's first nuclear-electric generating station has reached the half-way mark.

The \$32,000,000 Nuclear Power Demonstration (NPD) project, being built jointly by Atomic Energy of Canada Limited, Canadian General Electric Company Limited and Ontario Hydro has entered a new stage with the installation of mechanical and electrical equipment in the powerhouse.

First components of the station's 20,000-kilowatt conventional turbo-generator arrived at the site late in November last year. Installation of this equipment and the coolant and moderator piping for the nuclear reactor started during December. The Canadian-designed and built reactor will use natural uranium as

a fuel and heavy water as coolant and moderator.

A construction force of approximately 230 is working at the 560-acre Ottawa River site 20 miles upstream from Chalk River and 150 miles northwest of Ottawa.

Structural work on the L-shaped main building and the pump house is nearly finished. The main building, 272 by 180 feet, will contain the generating hall and control, service and administration wings.

The reactor itself will be housed in a concrete vault approximately 50 feet below ground. Excavation for the station sub-structure involved the removal of nearly 20,000 cubic yards of rock. The pouring of 12,000 cubic yards of concrete for the substructure.

(Continued on page 30)



THIS GROUP includes representatives of two of three agencies participating in the design and construction of NPD. Standing in front of the completed dump tank for the pioneer nuclear-electric plant, manufactured in Canadian General Electric Company's Peterborough Works are (left to right): CGE Chairman Ian McRae; A. L. Malby, CGE; Vice-President Walter Ward, Ontario Hydro Chairman James S. Duncan; Resident Hydro Inspector E. J. Westall; CGE President J. H. Smith; J. E. Girvin, CGE; and J. A. Blay, Hydro's director of information. (CGE photograph)

# ALONG HYDRO LINES



## A NEW "TURTLE"

Membership in the Turtle Club was awarded to Dave Thomas (right), a foreman with Port Colborne Hydro-Electric Commission, by Chairman E. H. Barrick. The Turtle Club is an international group of workmen who have avoid-



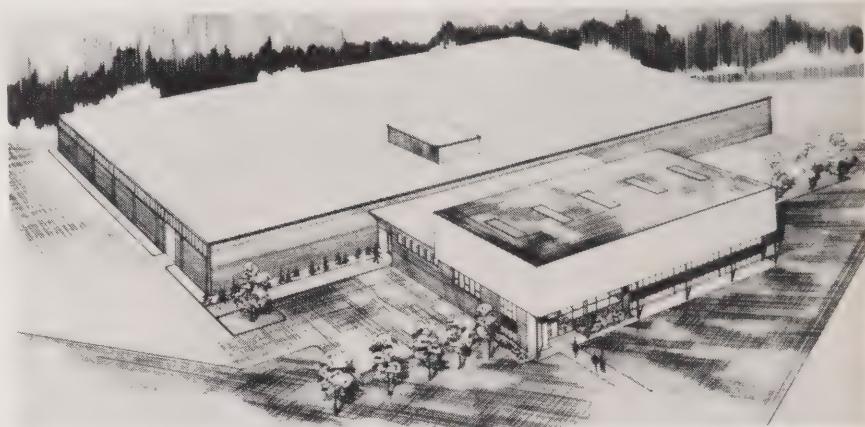
ed injury during an accident by wearing a safety helmet. Last July Mr. Thomas was struck by a falling steel bolt but was saved from injury by his hard hat. As well as membership in the Turtle Club, Mr. Thomas received a new hard hat bearing the Turtle Club emblem, as well as a lapel pin and wallet card.

### Etobicoke heat pump first in Province

A feature of the electric heating system in the new service centre being built by Etobicoke Hydro-Electric Commission is an air-to-air heat pump, first of its kind in

passes it at constant pressure through an electronic filter in the control room. With the cycle reversed in summer, the electric system provides a year-round temperature of 72 degrees.

Offices in the new building will



Ontario. The combination unit operates on the principle of reverse refrigeration, and will be the sole means of heating and cooling the second-storey operations control room.

In winter, the heat pump captures heat from outdoor air and

have baseboard convector-type heating with individual room thermostats. Large equipment storage areas and the garage will have electric forced air heaters.

Electric heating is also planned for the new Stouffville P.U.C. building. ■

### St. Catharines lineman honored by utility

St. Catharines P.U.C. honored one of its senior employees recently when Line Foreman William Whitaker was presented with a pin emblematic of 20 years' service with the utility.

Mayor W. B. Bald made the presentation at the annual employees' dinner. Thirteen other employees received 10-year pins from Mayor Bald, Chairman F. R. Cavers and Commissioners R. D. Hunter and W. B. Elliott.

### New office for Acton H.E.C.

Acton's newly elected Hydro commission has rented office space in the town's most modern apartment building. The Hydro commission has replaced the former five-man P.U.C., which was dissolved at the end of 1959.

### Illuminate Brock Monument at Queenston

Visitors to Queenston Heights Park near Niagara Falls, Ont., will be able to see the 185-foot-high monument to Sir Isaac Brock at night. The Niagara Parks Commission has installed more than 100 special lighting units around trees and buildings throughout the park. The lamps, which will be turned on from 8 to 11 o'clock nightly, required 10,000 feet of wiring placed in 4,000 feet of underground trenches.

### Long-service employee dies

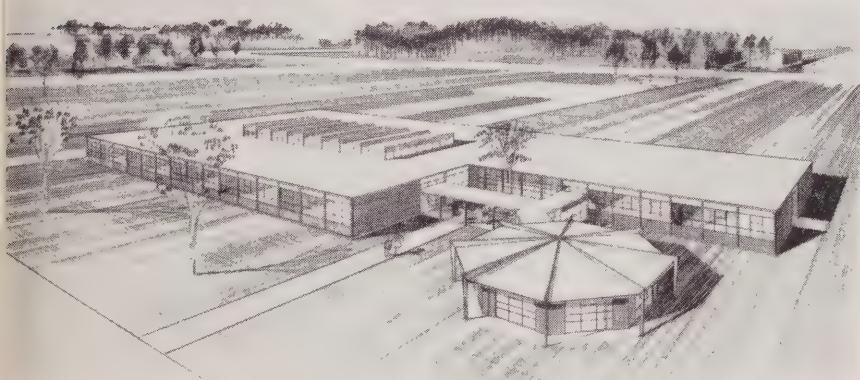
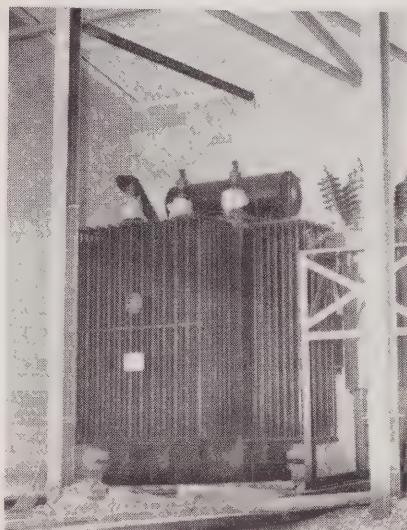
A retired Toronto Hydro employee, Charles Edwin Richmond, 69, died recently in his Toronto home. Associated with the Toronto system for 40 years, Mr. Richmond retired as meter department foreman three years ago.



(Peterborough Examiner photos)

## HOME FOR TRANSFORMERS

DISGUISED as "just another house," the newest substation of Peterborough P.U.C. blends effectively with other homes in the area. Since all cables are underground, only a terminal tower, located in a grove of trees 100 feet away, reveals the brick bungalow's secret. Prime function of the 12th substation will be to step down 44,000-volt power to 23,000 volts. The station is linked with three new feeders which serve the area. ■



Four rooms of one of Ontario's first electrically-heated schools will be built this year. The \$500,000 public school in Oakridge Park, west of London, Ont., will be constructed in five stages, with the final stage, an octagonal kindergarten room separated from the main building, scheduled for completion in the next four or five years. In addition to heating-ventilating units installed in each room, construction will feature extra heavy insulation. Its cost will be more than offset by the elimination of a boiler plant and the space usually taken up by a boiler room. Initially the school's electrical requirements will be supplied by a temporary overhead three-phase line. However, plans call for the permanent electrical service to be installed underground, in keeping with the underground distribution system planned for the subdivision.

JANUARY, 1960

## London builds outdoor station

New outdoor transformers and switching equipment have been placed in service at the Cabell Street station of the London Public Utilities Commission, General Manager V. A. McKillop announced recently.

The equipment is designed to give better protection to the station and utility customers, and to facilitate quick restoration of service in the event of trouble in transmission or distribution lines. The project will cost about \$80,000.

Completely self-contained, the new equipment will be installed apart from the present substation, built nearly 40 years ago. Consisting of pre-assembled units designed to provide ample interrupting capacity for today's condition, it will replace facilities now housed in the two-storey substation. After removal of the present equipment, the old substation will be used for storage and as an area workshop."

## Belle River starts water heater plan

Belle River Hydro-Electric Commission has instituted a new flat-rate water heater program. At present this utility is charging the regular residential rates for energy used to heat water. Under the new plan, customers may rent or buy the heaters. Rental charges will be \$2 per month, while the minimum charge for electricity will be \$2.27 net. Customers who own water heaters and wish to take advantage of the flat rate must pay for the rewiring necessary to bypass the house meter.

## Austin Jordan retires at Port Colborne Hydro

A 28-year career with Port Colborne Hydro ended recently with the retirement of Austin E. Jordan, the utility's secretary-treasurer and office manager.

Mr. Jordan said he has no immediate plans for the future and added that he will "take it easy for a while."



### PRESENT HYDRO TROPHY

TRACK MEET TROPHY was presented by Manager A. M. Pedersen, of Ontario Hydro's Eastern Region (right), to two students of Osnabruck High School, in the new Town of Ingleside, which won the 1959 St. Lawrence District Track and Field meet. Accepting the On-

tario Hydro St. Lawrence Power Project trophy on behalf of the school for the second successive year are Lillian Millross, senior girls champion (centre), and Bernie Warner, senior boys champion. The trophy was first presented in 1958 and won by Osnabruck High School.

### Veteran Peterborough man retires after 45 years

Harry G. Beatty recently retired as Superintendent of the electric department of the Peterborough Utilities Commission after serving for some 45 years with the utility.



In presenting Mr. Beatty with his first pension cheque, Chairman Fred Hill (left) remarked that the retiring superintendent is reputed to know all the details of every transformer in the system.

Mr. Beatty began his career with the Peterborough Light and Power Company in 1912. He was appointed superintendent in 1914, when Peterborough acquired the plant. At that time, Mr. Beatty recalls, Peterborough had only one substation, in contrast with the 12 plants now serving the city.

"When I started, open air arc lamps provided the street lighting. Today we have 2,257 street lights with luminaires and other incandescents," he said.

### E. G. Barrington Retires

Edwin G. Barrington, 70, who holds one of the three longest service records among employees of the Toronto Hydro-Electric System, retired recently after 48 years with the utility. A specialist in metering and test work, Mr. Barrington was presented with several electrical gifts at a dinner held in his honor.

### UTILITIES REDUCE RATES

SUBSTANTIAL reductions in Hydro rates have been announced by several Ontario municipal electrical utilities.

Lynden Hydro System has introduced a new bi-monthly billing system and a four-block residential rate, which will result in an estimated saving of approximately seven per cent for its customers.

Aylmer P.U.C. has reduced its rates an estimated 10 per cent on an overall basis. The new rate schedule will provide Aylmer P.U.C. with sufficient working funds for construction and maintenance on an annual basis.

Rates for domestic and commercial customers of Georgetown Hydro are substantially reduced and those for industrial customers reduced slightly. Under the new rates, domestic customers will enjoy a reduction from \$10.26 to \$8.10, a saving of \$2.16 for one month's consumption of 750 kilowatt-hours. A new billing method incorporating a four-block rate structure has been introduced.

Chairman A. W. Hollingshead, Woodbridge Hydro, has announced a new rate schedule for domestic commercial and industrial customers. He pointed out, as an example, that domestic customers will enjoy a reduction from \$8.95 to \$7.38, a saving of \$1.57 net for one month's consumption of 750 kilowatt-hours. Mr. Hollingshead also announced a new water heater rental program.

Customers of Renfrew Hydro-Electric Commission are enjoying the benefits of a 14 per cent reduction in rates. A decrease in utility revenue amounting to some \$50,000 will result from the following reductions: domestic, 20 per cent; commercial, 11.3 per cent; industrial, 9.8 per cent; water heaters, 12 to 15 per cent.

Customers of Wallaceburg Hydro will save about 25 cents a month, due to recent rate decreases on the following basis: 6.6 per cent residential; 8.1 per cent commercial and 8.3 per cent industrial.



## GUELPH LOOKS AHEAD

ESTIMATED expansion in the next 50 years was taken into consideration when Guelph Board of Light and Heat Commissioners drew up plans for their new offices and storage building.

Known as "The Guelph Hydro Building," it will be erected on five acres of land recently purchased by the commission in the city's "industrial basin."

A local construction firm has been awarded the contract for the building, which will be one of the first

electrically-heated buildings in the area. It is scheduled for completion on September 1, 1960, and will cost approximately \$468,000.

All available space in the commission's present building has been utilized to the utmost. It is estimated that the number of customers will have increased from approximately 10,000, at present, to a figure of about 25,000, and that the peak load will reach 150,000 kilowatts in the next half-century. ■



SAFETY-CONSCIOUS employees in Hydro's Northeastern Region took time out recently for a dinner in their honour. North Bay Area forestry crew was celebrating 1,494 accident-free days and the line maintenance staff 395 days without a lost-time accident. From the left are: Oscar Srigley, line foreman; Peter Bouchard, forestry foreman; Bud Thompson, forestry foreman; William Backus, line foreman; Ken Dent, line foreman, with Area Manager C. E. Dillon.

## Niagara Club Announces Schedule

The Niagara District Electric Club, at its first dinner meeting last fall, elected its officers for the 1959-60 season and prepared a schedule of future meetings.

The slate of officers includes: President — P. A. Walker; Executive Vice-President — Noel George; Secretary — J. G. Sutherland; Treasurer — W. J. Allan; Immediate Past President — W. G. Vivian.

Dinner meetings will take place in the Ballroom of the Royal Connaught Hotel, Hamilton, on the following dates: Feb. 10; Mar. 9; and Apr. 29 (Ladies Night). Executive meetings will be held in Parlor C on Feb. 23; Mar. 22; and May 3.

## Stanley Lewis Re-appointed

Stanley Lewis, chairman of the Ottawa Hydro-Electric Commission has been re-appointed to the Commission for a further two-year term. Mr. Lewis has been Chairman of the Ottawa utility since 1953.

A former Mayor of Ottawa, Mr. Lewis served as an ex-officio member of the Ottawa utility from 1936 to 1948 while he was the city's chief magistrate. He was Chairman of the Ottawa Commission in 1936. Since 1951, he has represented Ontario Hydro on the Ottawa Commission.

During the first 10 months of 1959, Ottawa Hydro's customer list increased by 3,224 to a total of 83,745.

## Sandwich East simplifies bills

The "do-it-yourself" trend has spread to utility bills. Sandwich East Township P.U.C. has approved a new bill designed so that the customer can calculate his own consumption and costs with little difficulty.

The bill indicates whether the water meter registers in Imperial gallons or cubic feet and provides a complete list of water and electrical rates on the back.

## New Niagara film gets good reviews

"Superb": that's how one newspaper reviewer describes the new tourist promotional film of the Greater Niagara Chamber of Commerce.

Entitled **LOCATION: NIAGARA**, the 27-minute film was approximately one year in the making and portrays the natural wonders and tourist attractions of the Niagara area. It contains several views of Ontario Hydro power facilities, including the Sir Adam Beck-Niagara Generating Station No. 1.

Following a recent preview of the film, a writer with the *Niagara Falls Evening Review* summed up his impressions this way: "To paraphrase a well-known statement: Never has so much been done to promote tourism to Niagara Falls . . . no other work . . . could so thoroughly and effectively present the merits of the Niagara Frontier in such a superb manner."

Available in both color and black and white, **LOCATION: NIAGARA** will receive wide distribution in Canada and the United States including screenings by television stations. It was produced by Val Productions Limited of St. Catharines.

The thousands of camera-carrying visitors who travel to Niagara

## THORNBURY PLANT

Thornbury's venerable generating station on the Beaver River has ended a service career of more than a half-century.

Operated by the municipality since 1902, the 150-horsepower plant has been declared obsolete by members of Thornbury P.U.C., who have approved a proposal to purchase the Georgian Bay community's full electrical requirements from Ontario Hydro.

Estimates indicate that a saving of some \$2,700 a year will result from the new arrangement.

Pumping equipment will continue to operate in a portion of the powerhouse, but the electrical fa-



WINDSOR UTILITIES COMMISSION'S 16th annual dinner to honor employees who have served for 25 years or more saw a special presentation to James H. Cherry (right), a veteran 40-year man. M. J. Brian, commission chairman (second from left) presents a \$100 bill to Mr. Cherry, while two new 25-year club members: William Howell (left) and James Millar, look on.

each year have helped make it one of the world's most photographed areas.

The new film will complement four other films of the Niagara district and its power facilities which Ontario Hydro maintains in its own film service for showing to interested groups.

## CEASES OPERATION

cities are not being used since the generating equipment was closed down.

### Nuclear Research establishment

Eleven thousand acres of land, 60 miles northeast of Winnipeg, Manitoba, have been selected for the site of Canada's second nuclear research centre. Atomic Energy of Canada Limited has announced. To be known as the Whiteshell Nuclear Research Establishment, the new centre will start as a small unit but will expand as nuclear research expands and may reach a size comparable to that of the Chalk River plant.

## HALF-WAY MARK

(Continued from page 25)

ure continued through last winter in below-zero temperatures. Lowest point below ground is the dump tank room, nearly 85 feet down.

The station's 150-foot high concrete ventilating stack was completed in October.

The pumphouse, situated on the river bank about 250 feet from the main building, will supply the station with approximately 24,000 gallons of water a minute for cooling purposes. The water will not come in contact with radioactive materials, and will be discharged into the Ottawa River in a pure but warmer state.

Scheduled to commence delivery of power to Hydro's Southern Ontario System in mid-1961, NPD will need a staff of approximately 68 to operate it on a 24-hour basis. Staff members will live in the nearby community of Deep River. To provide living accommodation for the operating staff, AECL and Ontario Hydro are sharing in the cost of 42

houses which will be built in the community. Six have been completed and contracts have been let for the remainder.

As a demonstration plant, NPD is being built to provide experience in the design, construction and operation of a nuclear-electric generating station, as well as serving as a training facility for personnel. It will also provide information for the design and construction of the first full-scale, 200,000-kilowatt nuclear plant, known as CANDU, which is scheduled to be in operation near Kincardine on Lake Huron by late 1964 or early 1965. ■

## THE HEAT'S ON

(Continued from page 1)

up, causing the line to sag downwards towards the conductor or power line. There were several instances, during the recent storm, when ice falling from the ground wire and conductors caused them to bounce up and down, making contact with one another, resulting in short circuits. There was always the concurrent danger, too, of the weight of these ice-laden wires pulling the supporting towers from their positions or combining with high winds to topple the heavy steel structures.

Thus line crews pressed into action to try out the new ground-wire ice-removal scheme.

A variation of what is known as the "snatch block" method, it involves the use of a chain attached to ropes. The chain is placed over the ground wire and, as the linemen move forward, they pull or see-saw the ropes so that the chain rubs or chews off the ice. The established snatch block method, which was also employed, requires the use of a long rope attached to the hook of the steel snatch block, which, in some respects, resembles a backyard clothes line block.

One side of the snatch block can be opened, permitting the block to be snapped on to the ice-covered ground wire. The steel edges of the two sides or shells of the block encasing the roller are very sharp.

Thus, when the block is pulled along the ground wire, the ice is cut away.

While it is as yet too early for the Commission's line maintenance engineers to fully assess the effectiveness of the new method as compared with the snatch block procedure, some believe that the chain may be the more effective.

Neither the chain nor snatch-block mechanical methods used on ground wires, can be applied to power lines because of possible damage to the aluminum conductors. Thus Hydro engineers devised the heat treatment for the power arteries.

Requiring two days of careful calculation and preparation for "putting on the heat," the high tension tests weren't apparent to electrical customers. But Hydro engineers are confident that their experiments produced vital information that will be of untold value in similar future emergencies resulting from Nature's caprice. ■

## STORM SAGA

(Continued from page 7)

stop for days ordering the area campaign, Charlie could barely talk and Ralph was taking medicine for his throat.

With the clean-up virtually complete, the crews started heading home over the week-end.

They left behind 10 regional trucks for individual customer service, four extra line crews for possible emergencies, and forestry crews to finish clearing branches.

### Crisis Over

But for the others, in both Georgian Bay and Toronto regions, the crisis was over.

They didn't think of themselves as heroes when they pulled out. They were just dog-tired men who wanted to get home.

Among them was Walter Frederick, a North Bay foreman who had been 200 miles from his wife and children for six days.

He had missed the parties he and

his wife had planned for every night from Christmas to New Year's. He didn't even have the consolation of a New Year's Day celebration like the party in Orangerville.

During the dinner and congratulations some 40 miles away, he had been grabbing a few hours of precious sleep.

And when he got home, unheroically, he went to bed.

But Walter's story ends on a happy note, as does the whole story of Hydro's comeback.

He resumed his holidays and was finally home for a big party — although Nancy is 1 and John is 2, they have the same birthday — January 5.

Isabel Frederick summed up the week of the storm: "It was a pretty disappointing holiday season. But much as I missed my husband, I was proud to think of the job he was doing."

It sounded rather like Ross Porter's remark after he called his wife in Markdale New Year's Eve to say he was still in Orangerville, with their ticket to the big dance in his pocket:

"She took it pretty well. She's a Hydro wife, and she's used to it."

Champions never say too much after the fight. ■

## Ontario Hydro disbands Frequency Standardization Division

Ontario Hydro's Toronto Region has taken over responsibility for completion of the frequency standardization program. All future communications should be addressed to D. B. Ireland, Consumer Service Engineer, at Box 905, Building 10, A. W. Manby Service Centre, Toronto 18.

The Frequency Standardization Service Depot will continue at Building F.S. 10W, A. W. Manby Service Centre and will be supervised by C. A. Holmquist, area project manager. Project accounting and contract auditing will remain the responsibility of G. R. Huxtable, manager of general accounting, Head Office.

## THE BIG JOB'S DONE

(Continued from page 9)

land and Barnhart Island; Long Sault Dam, three miles upstream, designed to combine with the powerhouses to operate the turbines of the 32 generating units and to pass any excess river flow; Iroquois Dam, 25 miles upstream from the Long Sault dam, which controls the outflow from Lake Ontario.

Besides these impressive elements of the international development, detachments of this construction army carried out extensive channel improvements between Prescott and Cornwall to provide satisfactory navigation conditions and facilitate trouble-free operation of the powerhouses during the winter months; they built 16 miles of dykes in Ontario and New York State to contain the headpond for the development, and completed relocation of 40 miles of main-line Canadian National Railways double-track with five new railway stations and auxiliary facilities, as well as 35 miles of Highway 2.

### Rehabilitation Program

Perhaps the most complex phase of the entire project was the rehabilitation program affecting some 6,500 Ontario residents. Seven communities and part of an eighth lay in the path of the rising waters, which also covered certain rural areas. Homes were moved, multiple dwelling units were constructed and cemeteries relocated as Ontario Hydro built shopping centres, schools, churches, roads, sidewalks, waterworks, sewage treatment plants for the communities of new Iroquois, Long Sault, Ingleside and a portion of Morrisburg.

Today the St. Lawrence Valley no longer echoes with the multitude of sounds that prevailed during the construction period; gone, too, are most of the thousands of men and machines which participated in the development.

Considerable dredging remains to be carried out in the channels upstream from the powerhouses in order to secure the necessary depths



DWIGHT S. SIMMONS, P.Eng., of Toronto, who has been elected president of the 18,500-member Association of Professional Engineers of Ontario. The Association is the licensing body for the engineering profession in Ontario and is the largest professional body of its kind in Canada. In business life, Mr. Simmons is general manager of manufacturing for Imperial Oil Limited. Mr. Simmons succeeds A. W. F. McQueen, P.Eng., of Niagara Falls, Ontario. Robert L. Hicks, assistant to the engineer, distribution planning and design, Toronto Hydro, has been elected Second Vice-President.

and velocities to meet navigation requirements and to ensure the formation of an ice cover during the winter. Scheduled for completion during 1960, this work entails the removal of more than a million cubic yards of material. In the tailrace area, immediately below the powerhouse, some 1,300,000 c.y. of material are to be dredged. Specifications for this work are completed and tenders have been called. A contract will be placed so that the successful bidder can undertake this work as soon as navigation opens in the spring of 1960. It is anticipated that this work will continue till about October, 1961. The purpose of this dredging, of course, is to reduce the level of the tail water, thereby increasing the head on the generating units with a consequent gain in output.

However, the great host of travellers who visit the area each year see only the massive structures that now span the St. Lawrence River; they travel the new highways to inspect

the sparkling communities which have been created; they admire and use the new beaches and parks along the shores of Lake St. Lawrence, which covers an area of about 100 square miles.

But their most important discovery is the fact that this great river — an ever-present aid to man since he first set foot in the St. Lawrence Valley — is still lending a helping hand as a prodigious producer of electric power and an avenue of travel for the commerce-laden freighters of the world. ■

### LET'S CHAT

(Continued from page 21)

Small types with a yen for baking can easily make cookies for their own lunches with this recipe for Scotch Crispies. Made from nourishing whole grain rolled oats, these crunchy bars are mixed in a saucepan and ready for the oven in five minutes.

#### Scotch Crispies

$\frac{1}{2}$  cup butter  
 $\frac{1}{2}$  cup brown sugar  
 $\frac{1}{4}$  cup corn syrup  
2 cups rolled oats  
 $\frac{1}{2}$  teaspoon salt  
 $1\frac{1}{2}$  teaspoons vanilla

Melt butter in saucepan. Remove from heat. Mix in brown sugar and corn syrup. Add rolled oats and salt. Blend thoroughly. Add vanilla.

Press firmly into an ungreased pan, either 9 x 9 inches or 7 x 11 inches. Bake at 450° for 12 minutes or until golden brown.

When cool, loosen edges and turn out of pan. Cut into bars or squares.

To make this a party treat, melt one package of semi-sweet chocolate pieces over warm water and spread on the bars before cutting. Sprinkle with  $\frac{1}{4}$  cup chopped nuts. Store in refrigerator. ■

There once was a lady from Guam  
Who said "Now the ocean's so calm  
"I will swim for a lark."  
She encountered a shark.  
Let us now sing the 90th Psalm.

# ONTARIO HYDRO NEWS



FEBRUARY, 1960



# ONTARIO

## THE COMMISSION

JAMES S. DUNCAN, C.M.G., LL.D.  
Chairman

W. ROSS STRIKE, Q.C.  
First Vice-Chairman

HON. ROBERT W. MACAULAY, Q.C., M.P.P.  
Second Vice-Chairman

LT.-COL. A. A. KENNEDY, D.S.O., E.D.  
Commissioner

D. P. CLIFF  
Commissioner

J. M. HAMBLEY B.Sc.  
General Manager

OTTO HOLDEN, B.A.Sc., C.E., D.Eng.  
Chief Engineer

ERNEST B. EASSON, B.Com.  
Secretary

## EDITORIAL BOARD

JAMES S. DUNCAN, C.M.G., LL.D.

BERT MERSON  
President, O.M.E.A.

W. RAY PFAFF  
President, A.M.E.U.

J. M. HAMBLEY B.Sc.

OTTO HOLDEN, B.A.Sc., C.E., D.Eng.

ERNEST B. EASSON, B.Com.

JAMES A. BLAY

BOYD L. GRAHAM

Editor - BOYD L. GRAHAM

SUBSCRIPTION: \$5.00 PER YEAR

Published by The Hydro-Electric Power Commission of Ontario, 620 University Avenue, Toronto.

Authorized as second class mail, Post Office Department, Ottawa.

Material published in Ontario Hydro News may be reprinted without permission. Most photographs are obtainable on request.



Member of the Canadian Industrial Editors Association and the International Council of Industrial Editors



FEBRUARY, 1960

VOL. 47, NO. 2

## CONTENTS

	PAGE
Electricity and Employment .....	1
National Electrical Week meaningful for Canada	
The Atom and Canada .....	2
An expert discusses Canada's nuclear program	
The Future of Hope .....	6
Excerpts from a first conference	
Winter's Magic .....	8
The poetry of snow and ice	
What Do We Promote? .....	10
Third article in a series	
Vignettes of the Hard-Sell Era .....	16
Out of the mouths of babes	
Let's Chat .....	17
With Hydro's Homemaker Service	
Make Mine Music .....	18
About the Kiwanis Music Festival	
Homemakers' Show Helps Housewives .....	22
Some clever promotion in St. Catharines	
Fort William's New Home .....	25
A new Hydro headquarters for Lakehead city	
Along Hydro Lines .....	28
Capsule review of utility activities and operations	

## COVER "SHOTS"

Our front cover proves definitely that the amateur photographer can become a professional with a little imagination. Travelling along Highway 89 near Alliston, Ont., recently, Mrs. A. F. Rogers, of Ontario Hydro's Consumer Service Division, recorded the beautiful winter scene which instantly attracted our attention. But we had to go to our photographic Section for the striking nocturnal view of Hydro's Richard L. Hearn plant on the back cover.

# HYDRO NEWS

## ELECTRICITY AND EMPLOYMENT

OBSERVANCE of National Electrical Week—February 7 to 13—this month, provides us with a valuable opportunity for a thoughtful but enlightening appraisal of the beneficial and dynamic impact of the phenomenon of electricity on our social and economic life. At the same time, it focuses attention on Canada's achievements in power development.

A recent bulletin issued by the Canadian Department of Northern Affairs and Natural Resources indicates that Canada established a new record by placing a total of 2,508,800 horsepower of new hydroelectric generating capacity in service during 1959. Today the total capacity of all waterpower plants in Canada is listed at 24,884,848 hp—less than 30 per cent of the nation's total hydraulic resources estimated to be capable of economic development.

It is gratifying to learn from the same report, of course, that this Province made a significant contribution to the figures for 1959 hydro-electric development by completing installation of nine remaining units at Ontario Hydro's Robert H. Saunders-St. Lawrence Generating Station. At the same time, among 10 Canadian provinces, as well as the Yukon and Northwest Territories, Ontario showed the greatest increase in the addition of thermal-electric capacity.

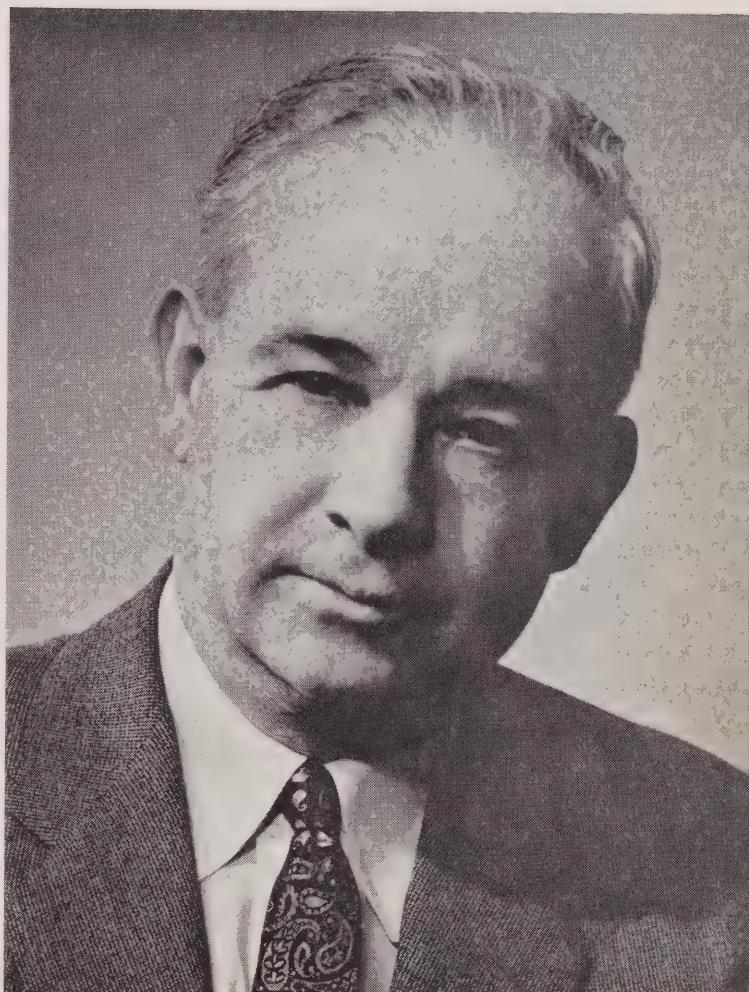
While Canada's record of power development is particularly noteworthy in itself, her rapidly mounting energy demands—100,000,000,000 kilowatt-hours in 1959—illustrate that this comparatively small nation has a position of pre-eminence among the world's industrial nations.

The greater part of our energy consumption—some two-thirds—is used in manufacturing and mining. This is said to be the equivalent of 350 million able-bodied men working an average 40-hour week throughout the year.

The national average cost of electricity, which has been dropping progressively in the past two decades, is partially responsible for the increased utilization of this vital motive force by both householders and industry. But we must remember, too, that outstanding and virtually unbelievable advances have been made

(Continued on page 24)

## CITIZEN OF THE YEAR



MEMBERS OF THE O.M.E.A. are very proud of the fact that one of their prominent members has been selected for one of the highest honors his own community can confer. D. P. Cliff, O.M.E.A., secretary-treasurer, has been named Citizen of the Year by the Dundas (Ont.) Chamber of Commerce and recently was presented with a plaque. A former O.M.E.A. President (1950-1951), Mr. Cliff was appointed an Ontario Hydro Commissioner by the Ontario Government in 1956. In addition to serving as Warden of Wentworth County, he has held every elected office in his own home town.

CANADA'S first nuclear-electric station, the Nuclear Power Demonstration plant takes shape on the shore of the Ottawa River, near Rolphton.

TH



*Is Canada on the right track in its present nuclear energy development program? This critical question was explored by an international panel of experts during the First Canadian Conference on Uranium and Atomic Energy, held recently in Toronto under the sponsorship of the Ontario Department of Energy Resources.*

*The official Canadian opinion was given by Dr.*

*George C. Laurence, director of reactor research and development, Atomic Energy of Canada Ltd. In view of Ontario Hydro's participation in the development and construction of Canada's first two nuclear-electric stations. Dr. Laurence's paper and summarized opinions of his fellow-panelists and other speakers will be of interest to members of the Hydro "family":*

by Dr. G. C. Laurence

**W**E cannot fail to reflect that many of the early predictions about the future of nuclear power were not too accurate. We know now that some of them for example, promised too much—and too soon.

Are the predictions which we make today likely to be any more reliable? At least they should be. Some 15 years ago we were impressed by the wonderful new possibilities of nuclear energy. Today we see it in better perspective because we are very conscious of the difficulties also. Even 10 years ago we were speculating about untried nuclear reactor concepts. By today an enormous amount of development has been done on these reactor concepts. Progress during the last 15 years depended more on unforeseeable discovery and invention, on the devising of new engineering methods and on creation of new industry. Progress during the next 15 years should depend more on the methodical improvement and development of basic ideas that are

already established. So today, in discussing the future, we are trying to foresee where the present is leading us—to foresee the future consequences we can expect from present trends and from present planning.

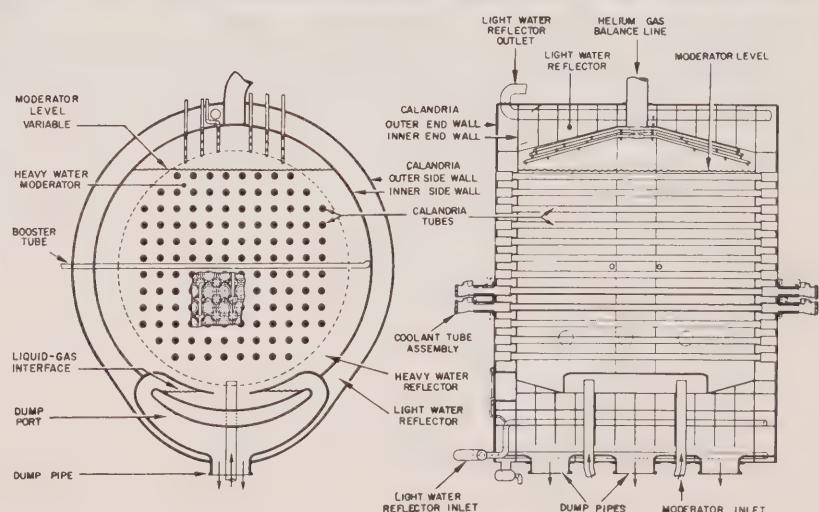
Thus, in talking about the future of nuclear power development in Canada let us begin with the present. As you know, we are building a 20,000-kilowatt pilot plant called NPD (Nuclear Power Demonstration) near Rolphton, Ontario, which should begin to produce power in 1961. At the same time we are designing our first full-scale nuclear power plant, Douglas Point G.S., to be completed in 1964. The small NPD plant is intended to give us early experience in some of the basic principles of the heavy water type of power plant. Experience in constructing it is helping us in the design of the large plant. Also it enables us to predict the costs of a third reactor more accurately than we could foresee

*(Continued on page 4)*

# ATOM AND CANADA



DIAGRAM (right) shows details of the NPD reactor tank, which is called a calandria. It is 15 feet long and 17 feet in diameter, with 132 aluminum tubes running end to end. Photo (above) shows one end of the tank at the Peterborough works of Canadian General Electric Company.





△

IN THE EXHIBIT HALL at the First Canadian Conference on Uranium and Atomic Energy, Dr. D. K. Grant, director of Ontario Hydro's Medical Services (right), and Dr. R. B. Trewin, assistant director, examine shield-ing over the reactor vault in this NPD model. Dump tank for the heavy water moderator (lower right in the photo of the model) arrives at NPD (right). ▷

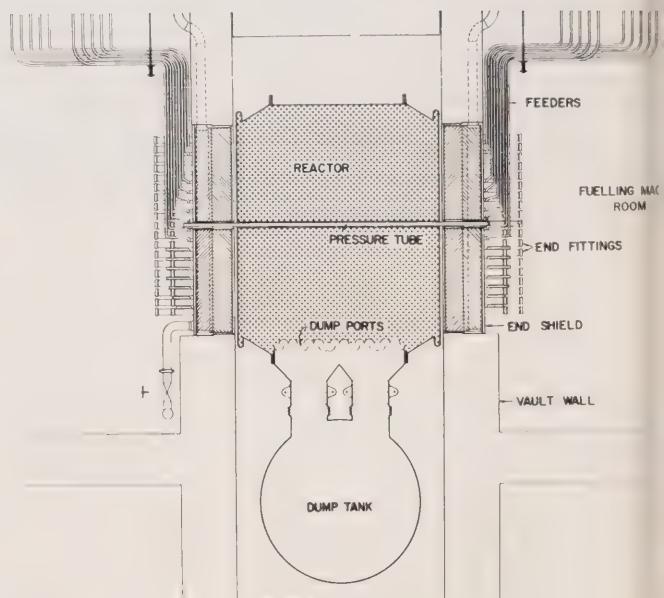


the costs of NPD and Douglas Point. Very comprehensive cost optimization studies are being made by modern high speed electronic computing.

By 1962 we shall have experience in operating NPD, experience in the construction of Douglas Point, and the benefit of the development work for both reactors. Thus initial high development costs will be eliminated. After 1962, we expect that CANDU-type nuclear plants like Douglas Point G.S. will be chosen as economically competitive for Southern Ontario and possibly elsewhere. The first such plants should begin producing power about 1967.

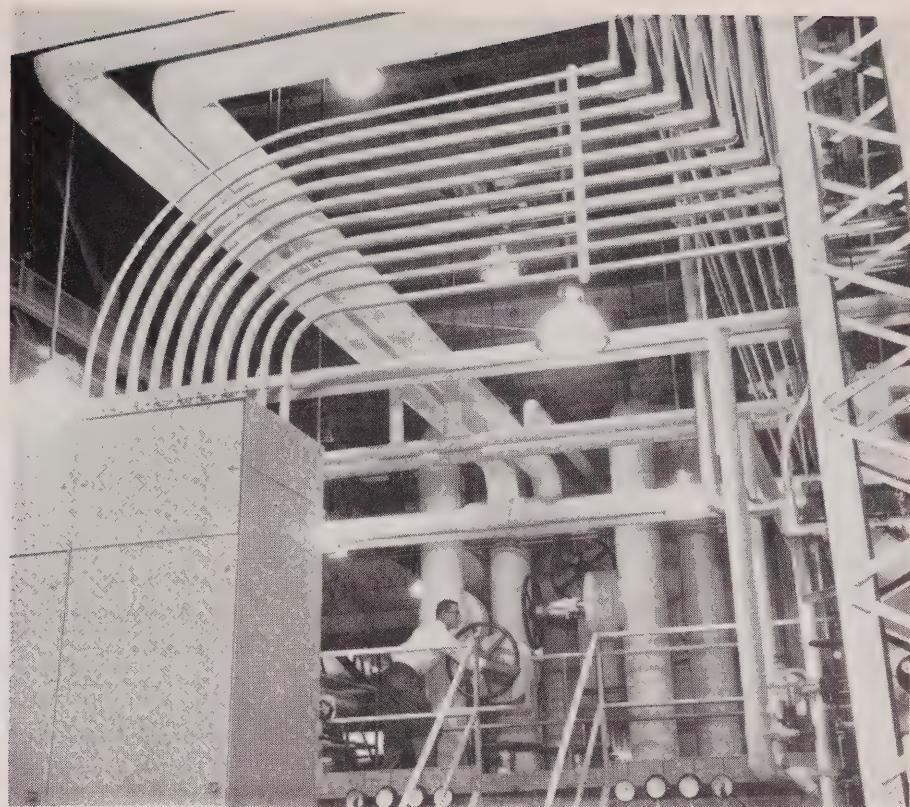
This is about the same as the prospects in other countries. In the United Kingdom and the United States, for example, recent authoritative statements suggest that they do not expect that the cost of nuclear power will fall to the level of coal-fired electric power until the second half of the 1960's in those countries.

What will happen after 1967? That first economic nuclear power station in southern Ontario will be followed by others. These will be quite large units, at least 250,000 hp each, because only quite large units would be competitive with coal-fired stations in that part of the country. Smaller power stations will be competitive where present power costs are higher, as in Nova Scotia. So by 1970 we may expect a growing



SCHEMATIC DIAGRAM of the CANDU reactor to be installed in the Douglas Point nuclear power station near Kincardine on Lake Huron. For simplicity, only one pressure tube is shown.

PART OF A "loop" system, which covers 30,000 square feet of space at Ontario Hydro's A. W. Manby Service Centre near Toronto. The equipment is used by the A.E.C.L. Nuclear Power Plant Division to test the flow of coolant over fuel rods in simulated fuel channels, and also to test and develop pumps, valves and a variety of joints required in the coolant system.



use of nuclear energy for central generating stations in some parts of Canada.

We shall, of course, still be building some power plants that will consume fossil fuels, in the prairies for example, and for peak load requirements even in Ontario, and we will still find it profitable to harness more of our great reserves of unexploited water power.

Thus, by 1975, I can imagine several million horsepower of nuclear power station capability in Canada. The fuel required for these plants would be several hundred tons of uranium oxide per year—a quantity that is small in comparison with the present output of our mines.

We expect that most of this nuclear power in Canada will be produced in heavy water moderated reactors. That is because the heavy water plant, which has much lower fuel costs than most other kinds, is the only one that promises to become competitive during the next decade in the most populated and industrialized parts of Canada. Considerable changes in its design may occur during the next 15 years; some of these possibilities, such as the use of organic cooling or of cooling with superheated steam, are now being investigated.

There will also be nuclear power plants built in

Canada that are not heavy water moderated. They will be of smaller capability and will be preferred where the advantages of a low fuel cost is outweighed by high construction costs, as it might be, for example, for a small plant in a remote location.

Canadian preference for heavy water reactors for large central power stations, it seems, is not shared by all Americans. Apparently some Canadians are disturbed by this—they fear that we may be backing the wrong horse. But let's have a look at this difference in preference to see how it happens.

Dr. Frank Pittman of the U.S.A.E.C., in a recent address, compared seven different kinds of nuclear power stations now being developed in the United States. He estimated what he expected the operating costs of these seven kinds of plants would be in 1970 assuming reasonable progress in development. His estimates of the cost for the heavy water reactor he later revised. His revised figure was 8.02 mills per kw-hr. The other six were between 7.1 and 7.8.

Dr. Pittman's figures are based on costs and conditions that prevail in the United States, which are very different from those in Canada.

First, the U.S.A.E.C. sets the fixed charges on cap-  
(Continued on page 6)

# THE FUTURE

ital investment at 14 per cent per annum, whereas the corresponding costs for Ontario Hydro would average about 7 per cent. Secondly, the U.S.A.E.C. assumes \$40.50 for the cost of 1 kg natural uranium oxide, while we are paying—actually paying—about \$25. Thirdly, in the American plants, the plutonium produced in enriched uranium fuel can be sold back to the government at \$12 a gramme less about \$1.50 per gramme processing cost, while our estimates make no credit allowance for low grade plutonium because we will soon be embarrassed by a surplus of this material obtained as a byproduct. We cannot use it economically, and it will only present to us a storage problem.

All three of these differences make the heavy water reactor more attractive in Canada than in the United States. We can correct Dr. Pittman's figures for them so that they will apply in Southern Ontario. That is, we can change 14 per cent fixed charge to 7 per cent; \$40.50 fuel cost to \$25, and leave out the \$10.50 a gramme buy-back on plutonium. The cost for the heavy water plant is then about 5.0 mills kw-hr, while its nearest competitor is more than 6.0 mills/kw-hr. In fact the heavy water plant is the only one of the seven that could compete with coal-fired stations in Southern Ontario or Quebec. Notice that this comparison, showing the advantage of the heavy water reactor in Canada, is based on an American cost analysis.

We are not content to say merely that the heavy water plant is best for Canada. We think it is to be preferred for most countries. Even in the United States, where financing practices are against it, we would not compare the heavy water plant unfavorably with any other kind of large nuclear power station, because the American design, which I presume is the base of Dr. Pittman's estimate of its cost, we consider to be an unnecessarily expensive design. It requires more heavy water and more Zircaloy and gets less energy from a pound of fuel than the corresponding Canadian design.

In Canada, the large heavy water-moderated plants will probably be designed to use natural uranium, but slightly enriched uranium could be used in them if desired. Some other kinds of nuclear power plants will have to use enriched uranium. My guess is that we shall not make enriched uranium in Canada during this period; we shall prefer to import whatever enriched fuel we need because our needs, together with the markets we might capture abroad, will not be great enough to make production in Canada economically profitable.

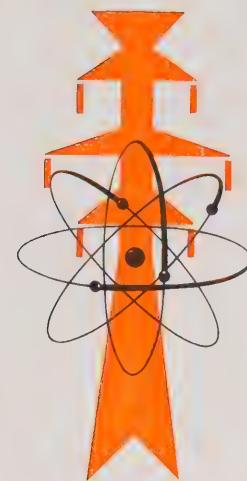
After 1975, the re-cycle of plutonium may appear in the picture. Fast breeder reactors may become important. Looking still farther into the future, we have the certain knowledge that, as population grows, as power demands increase, as water power becomes completely exploited and the price of fossil fuels rises, there will remain an enormous source of energy in nuclear power generation. ■

"It must be obvious that no country and no person, today, knows with any certainty what type of nuclear power plant will ultimately prove to be most attractive economically for any specific purpose or in any geographic locality. The conclusion upon which we can all agree is that the answer can be found only after years of operating experience with different types under a variety of circumstances. In Canada, in 1960, considering our experience and natural resources, all the officials and directors of A.E.C.L. are firmly convinced that our best prospect is to investigate thoroughly, by demonstration and full-scale plants, the economic and technological advantage of heavy water reactors. It may be that, in 10 years' time, we will find some modifications or combination of the various types now being demonstrated are more attractive; but, let me repeat, at the moment, we are most optimistic about our Canadian plans, and we are sure our program is the widest and most prudent one for Canada. In this view our expert friends in other experienced countries, such as France, the U.K. and the U.S., concur."—J. L. Gray, president, *Atomic Energy of Canada Limited*.

\* \* \*

"I think the moral of this story is that nobody will know the real costs and advantages of the various reactor types until they build and operate them, and then get bids on the next and succeeding genera-

# RE OF HOPE



ations of plants. This will cost money, but it is a relatively inexpensive price to pay for obtaining a wholly new source of energy. I am confident that we will see the day, not so far distant, when we will have to extend ourselves in the United States, Canada, and throughout the world, to obtain the necessary uranium raw materials to supply the expanding civilian market."

—Hon. Chet Holifield (D-Calif.).  
U.S. Joint Committee on Atomic Energy.

\* \* \*

"The prospect of competitive nuclear power in the United Kingdom, within the next 10 years is good. We may, therefore, expect a really large nuclear construction program there during the 1970's. Fuel requirements will rise correspondingly. Almost all the fuel will be uranium, but much of this may have to be taken in a form already enriched to about 1 or 1½ per cent in U235."

—J. L. Gillams, United Kingdom Atomic Energy Authority.

\* \* \*

"We believe it likely that the cost differential of \$60 or \$70 per kilowatt above a coal-fired plant will be reduced by about half within a fairly short number of years, and that fuel cycle costs will be reduced to 2.0 mills per kw-hr or slightly less . . . While initiation of plants of such performance may be five years off, it appears bound to occur and to lead to very widespread use

of nuclear power by the end of this decade in the United States . . . In summary, it appears possible to build large nuclear power plants in high fuel cost areas of the United States today, which will prove to be economic over their useful lives. Within a few years, nuclear power will be competitive with conventional steam power plants in the United States on the general basis. Further improvements will be made in achieving greater efficiencies, lower costs, and finally in more complete utilization of uranium and thorium resources."—W. Kenneth Davis, vice-president, Bechtel Corporation.

\* \* \*

"I do not mean to imply that nuclear power will never get off the ground. I may differ in my ideas as to timing. But an important breakthrough could actually occur at any time. My own logic, therefore, compels me to take up a position only one or two stages removed from that of other members of our panel. Change—as I have said—is of the essence of things. The oil and gas industries will be forging ahead. If they are wise, they will continue to know more about nuclear power than the experts on nuclear power know about oil. We, by promoting our own gatherings, may hear what we want to hear. But, in drowning out of the voices of others, we are really looking for trouble. The truth rarely dawns on those who talk mostly to themselves. No amount of self indoctrination

can take its place. Nor is there anything like competition to ensure that we make the right use of our resources in a rapidly-changing world."—Dr. John Davis, director, Research and Planning, B.C. Electric Company Limited.

\* \* \*

"World energy demands have now increased to the point where full exploitation of both fossil and hydraulic energy resources must be undertaken. Even more important, world energy demand forecasts for the year 2,000 indicate the absolute need for development of non-conventional energy resources. The rapid world-wide expansion of demand for electricity, which, on the average, doubles every 10 years, is particularly striking. The non-conventional resource most likely of early practical application, particularly to the generation of electricity, is atomic energy."—Corbin Allardice, adviser on Atomic Energy, International Bank for Reconstruction and Development.



# WINTER'S MAGIC

*Nor from the perfect circle of the year  
Can even Winter's crystal gems be spared.*

—Christopher Cranche

*Now there is frost upon the hill  
And no leaf stirring in the wood.*





*The little streams are cold and still,  
Never so still has winter stood.*

—George O'Neil

*Be like the sun and the meadow, which are not  
in the least concerned about the coming winter.*

—Bernard Shaw



*His breath like silver arrows pierced the air,  
The naked earth crouched shuddering at his feet.*

—Frances Anne Kemble



*(This is the third and final chapter of a series on electrical utility sales promotion. The suggestions presented herewith are based on a panel discussion at this year's annual meeting of the Eastern Ontario Municipal Electric Association. Members of the panel were four Ontario Hydro representatives: First Vice-Chairman W. Ross Strike, panel moderator; I. K. Sitzer, assistant general manager - production and sales; D. J. Gordon, director of consumer service, and Gordon McHenry, manager of residential sales.*

*Editor's note.)*

**1. QUESTION:** Why should a municipal utility promote flat-rate water heaters? The rate on water heaters is so low there's no money in it. **ANSWER:** It is perfectly true that the flat rate for water heaters in terms of cents per kilowatt-hour is lower than the rate for other uses. There are sound reasons for this: a) The load factor of the average water heater is much higher than the load factor of the other domestic uses, in fact, so high that a large part of the energy used is completely off peak when it can be supplied at lower cost. (b) The competitive situation in water heating forces us to pass on a large part of the lower cost to the customer.

Nevertheless, the flat-rate water heater is a good load for a municipal utility and provides a good surplus of revenue over cost, particularly where peak load control is used effectively. Rates have always provided for full recovery of cost of power even with the water heater on peak.

The electric water heater has always provided an important part of the revenue of municipal utilities in this Province. Flat-rate water heaters alone provided about 18 per cent of total domestic revenue in 1958.

If metered heaters were added, it would undoubtedly be well over 20 per cent.

In some areas where natural gas competition has been the keenest, some utilities, in recent years, have lost half of the flat-rate heaters they once had. Let us consider what would be the case if the gas companies had started their big promotional drive 20 years ago, and no action had been taken by the electrical utilities. By now, most utilities would have lost, say 75 per cent of their water heaters (not to mention other loads), and their revenue would now be 15 per cent lower than it is. It is obvious that our rates would, in general, be higher to provide the additional revenue and our ability to compete with gas just that much worse.

**2. Q:** What is the best way for a municipal utility to promote flat-rate water heaters? **A:** There is not just one "best way" for a utility to promote water heaters. The type of promotion used will depend to a considerable extent on the local situation and this may vary widely from one location to another. But there are common factors which must be understood. Some of these are: (a) The quantity of hot water used in the home has been increasing greatly in recent years with the result that the water heaters, which we have installed in years past are no longer acceptable in many instances. It is essential to provide complete customer satisfaction in all installations old and new, and, therefore, from a promotional standpoint, it is much better to install a unit which is too large for any given situation than one which is too small. It is not up to the utility to tell the customer how he should use hot water in his home, it is the utility's function to see that

WHA  
DO  
WI

a water heater is installed which is adequate for whatever uses the customer may wish to make of it. (b) Customer surveys and tests which have been carried out indicate that the use of hot water in the household varies widely from one customer to another even under similar circumstances. This makes it virtually impossible for the utility to estimate with accuracy the amount of hot water which a given customer may need. Also, up to 25 per cent of a utility's customers may move each year. This means that there must be considerable flexibility in the water heater which is provided. For this reason, nothing smaller than a 40-Imperial gallon tank should be used, and there should be provision for several element sizes for this tank up to 1,000 watts on the top and bottom, and possibly, for special applica-



# PROMOTE ?

ions, a 1,000-watt lower element with a 3,000-watt top element. The utility can then make an installation of a 40-gallon tank with two, 800-watt heaters on it, for example, offering to make the change to larger elements at no cost to the customer if the smaller elements are found to be inadequate for his particular requirements. Whatever plan is used by the utility, it must be designed to give *complete* satisfaction to as many customers as possible.

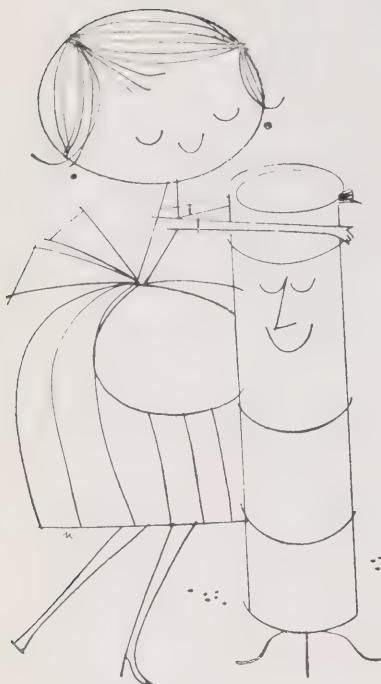
3. **Q:** If we promote nothing smaller than a 40-gallon tank, doesn't this increase the cost of the water heater? **A:** In most cases, the 40-gallon electric water heater has a higher initial cost than a gas heater. Thus some promotional means must be found to overcome this first cost disadvantage, otherwise sales of gas heaters will be

made in many cases merely because the customer can save a few dollars on the original installation. One method of overcoming this first cost disadvantage is the establishment of a *rental* plan. Under this arrangement, the customer does not have to purchase the water heater, and so is not aware of the first cost disadvantage. Ontario Hydro has a water heater plan in operation, and more than 100 municipal utilities in the Province are also participating in similar programs. In most instances these rental plans have been successful in overcoming the first cost disadvantage. Other utilities are using other means to overcome the high first cost. In some cases, the customer purchases the heater but the utility provides installation free of charge. Another approach which has been tried by some utilities is to sell the water heater to the customer

on a time payment basis at a relatively low interest rate.

4. **Q:** When you go to buy a house in a subdivision today, the water heater is already installed and you don't get a choice? **A:** Particular attention must be paid to the new housing field. Many, if not most, of the houses in this Province are built by *building contractors on speculation*. In most cases, the building contractor installs the water heater in the house before it is put up for sale. If the utility wishes to promote water heaters in the new housing field, it must work with the building contractors, not the ultimate customers. This means that time and effort must be expended on making direct contact and carrying out a direct sales effort to the building contractor. This field will not be covered merely by running

*(Continued on page 12)*



a few ads in the local newspaper. The essential thing to remember in dealing with the building contractor is that dollars mean everything. He is not primarily concerned with the performance of different types of water heaters, nor is he primarily concerned about the customer's preference for gas or electrical equipment. But he is primarily concerned with the first cost, and this is the place where the first cost disadvantage of the electric water heater hurts most. If the building contractor can be interested in the rental scheme, then this disadvantage can be overcome, but, in many cases, the builder will feel that putting a house up for sale with a rental water heater in it provides an encumbrance to the sale, in that the customer would normally expect that the water heater is part of the house which he is purchasing. In these cases, it will probably be necessary for the utility

to provide some form of direct subsidy so that the builder can obtain the electric water heater at the same price as the gas heater. There are many different ways of doing this which would take too long to discuss at this time.

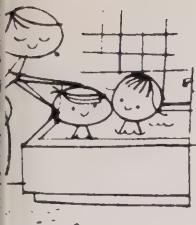
**5. Q:** Why do so many people have the idea that electric water heaters won't do an adequate job? **A:** It is unfortunate, but nevertheless a fact which must be faced, that, in the last 10 to 15 years, many electric water heaters have been installed which are totally inadequate for the customer's present use. It is also unfortunate, but must be noted, that in many cases where the customers have complained about these water heaters, the utility has told them that there is nothing wrong with the heater and they should be able to get lots of hot water from it. The overall result is that many people now hold the firm conviction that electric water heaters cannot provide an adequate supply of hot water for present-day conditions.

Any advertising or direct mail publicity, which is carried out by the electrical utility, should repeatedly stress that a properly selected water heater of good design can meet the hot water requirements in any home. If the customer is not getting a sufficient supply of hot water now, he should be urged to contact the utility, and, when he does make this contact, every effort should be made to put larger elements into his heater or, if necessary, to sell him a completely new heater with a larger tank. Where-

ever the customer complains and a check shows that his heater is functioning normally, it should be assumed that he needs a heater of larger capacity and never that his use of hot water should be curtailed to meet the abilities of the heater. This, of course, means that there must be sufficient staff available to thoroughly investigate these complaints, and to sell the customer on the required equipment to upgrade his water heating installation. Incidentally, the rental water heater is a very important tool to use in these circumstances.

**6. Q:** Is there any advantage to the utility providing a maintenance service for water heaters or can this be left to appliance dealers or electrical contractors? **A:** Free servicing of water heaters is very important. This service should be provided as quickly as possible since a supply of hot water is almost a basic essential in the modern household. Particularly over the weekend, there should be provision for servicing of water heaters. This servicing of water heaters is important not only from the standpoint of keeping the customer "in hot water," but because it enables the utility to hear about and run down most of the cases of unsatisfactory water heater operation. It then has a chance to correct the situation, and, therefore, maintain or establish a good reputation for the electric water heater.

**7. Q:** There was a municipality where the appliance dealers and contractors objected to the utility getting back into the water heater



business. Does this mean anything? **A:** It is particularly important for the utility to encourage the sale of water heaters by appliance dealers, plumbers and electrical contractors in the municipality. These people can be either your best salesmen or your worst handicap depending on how you co-operate with them. Many utilities have tried selling water heaters at the bare utility cost only to find that this makes it impossible for all other sales outlets for water heaters to compete. The net result is that the utility becomes the only agency in the municipality promoting electric water heaters. Worse still, some of the appliance dealers and most of the plumbers will then push the sales of gas heaters even harder. This is something like ordering full steam ahead while your ship is still tied to the dock. It just won't get you too far.

This is where the rental water heater scheme comes in, because the utility can promote it as actively as it wishes without seeming to interfere with the normal price structure for sale of water heaters in the community. If it is necessary for the utility to solve a tough local competitive situation by offering water heaters for sale at a price below the normal market price, then it should normally be worthwhile to consider offering some form of sales commission to appliance dealers, plumbers and contractors, etc., so that they too can sell at the reduced price established by the utility, and still get a reasonable mark-up more or less in line with what

has prevailed in the past. It would not appear that we are big enough to fight this battle alone, and we undoubtedly need every ally which we can obtain.

#### Electric Home Heating

**8. Q:** Why should we try to sell electric home heating? Everybody knows that it is *too* expensive, and that it wastes electricity which is too valuable for that use? **A:** Electric home heating may be *more* expensive but not *too* expensive. It is not a *cheap* means of heating a house, but it is definitely a *better* way. Use of electricity for home heating is not an improper use any more than many other uses in the home. Lighting, for example, was done by gas and could still be done by gas and most likely for less cost. But electricity is universally used because it is *better*, although the gas companies are successfully selling gas driveway lights right now.

Cost is not the only factor either. We have hundreds of examples today of the common use by the public of a *better* way to achieve something even though it may be more costly. It is certainly cheaper to hang clothes on a line than to put them through a clothes dryer. But this doesn't stop the sale of clothes dryers. Low cost is not the major consideration in most people's minds.

The extra cost of electric home heating is not great. With proper insulation, the energy cost need be only 25 per cent greater than people are now accustomed to paying for home heating. This is partially offset by lower maintenance cost and

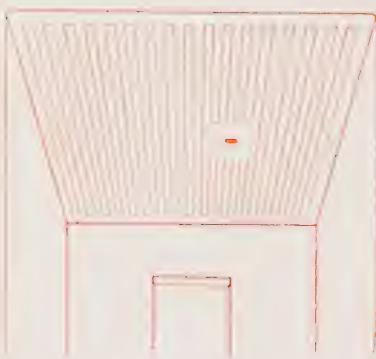
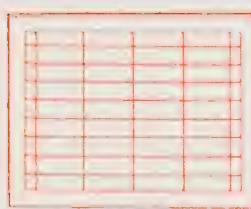
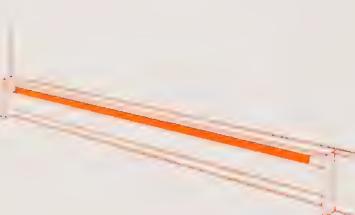
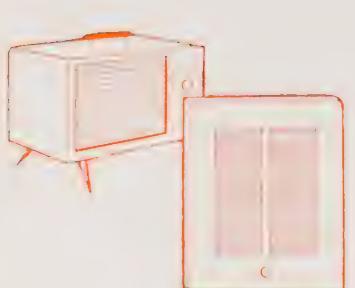
lower cleaning and decorating costs. The fact is that it *is* attractive to many people.

It certainly should be attractive to the utility. Here is a chance to increase the revenue obtained from a domestic customer by five times, while the total cost of giving service to the customer increases only four times. Studies made to date indicate that the *revenue* from a customer with water heater, range and electric heating would exceed the utilities' *cost of providing service* by \$50 to \$100 per year. This is a pretty good margin, and certainly justifies a lot of promotion in this field.

**9. Q:** What can the electrical utility do to promote electric heating?

**A:** Since electric heating is a relatively new field in this Province, most of the people who inquire about it will have little or no knowledge and will be looking for guidance from the utility. The first thing the utility must do in all such cases is to express complete confidence in electric heating, and to exhibit enthusiasm for it as a better way of heating. The second thing the utility must do is to *give* or offer to *get* whatever assistance the customer may need in determining his electric heating needs or in solving his electric heating problem. Every utility should see that someone on the staff has a *basic* knowledge of electric heating, at least sufficient to determine what the customer's problem is and to whom he should be referred for a solution.

**10. Q:** Will this cause a staff  
(Continued on page 14)



problem for the utility? **A:** No! It will not be necessary for each utility to have a fully-trained electric heating specialist on the staff. Ontario Hydro will have competent heating specialists in its regional offices, and will be working with the Electrical Contractors' Association throughout the present winter to provide training for many electrical contractors. When this program has been carried out, the names of qualified electrical contractors in the municipality will be provided to each utility, and it will then be possible for the utility to refer prospective customers to these contractors.

The smaller utilities can rely on the Ontario Hydro specialists in heating to give them the necessary technical assistance in answering customers' inquiries. The larger municipal utilities may wish to appoint a member of the staff who can become a specialist in electric heating. It is hoped that there will be a correspondence course available later this winter. This course will be aimed primarily at the electrical contractors, but will be useful for any utility, which wishes to provide specialist training for one or more staff members.

**11. Q:** This makes it look as though all the utility needs to do is sit and wait for someone to inquire about electric heating? **A:** Not by any means! While electric heating can be installed in existing houses where the construction is such that the insulation can be changed to the level required for electric heating, the most important field for electric heating will be: (a) To heat the extra new room in an existing home, or to add heat to a room with insufficient heat from the regular heating system; (b) In new homes, motels, apartment buildings, schools and office buildings.

The most important action, which can be taken by the electrical utility, is to maintain contact with building contractors, real estate people, sub-dividers and all related to the construction industry in the community, and to make sure that they are fully informed on the merits of electric heating and the advantages which this modern method of heating can give to the contractor in selling his buildings.

There have been valuable electric heating installations, which have been almost sold by a manufacturer's salesman or a local distributor, and



**NO FURNACE**—no ducts—no pipe—no chimney. This wall-mounted, electric heat convector panel eliminates all those items from the construction cost.

then lost merely because the local utility, through lack of knowledge or excess caution, discouraged the use of electricity for this purpose.

**12. Q:** Will there be any general advertising and publicity about electric heating? **A:** Ontario Hydro, working with the rest of the electric heating industry through the Electric Heating Association of Ontario, is developing a strong promotional program aimed at the general public, through the media of newspaper and magazine advertising, and at the building contractors and electrical contractors by means of advertising in the trade journals, special articles in the trade journals and direct mail publicity. This program will be carried out on behalf of the municipal utilities as well as for Ontario Hydro. Whatever promotional activity is carried out by the local utility should be tied in with this overall effort. The sales staff in our regional offices can provide the necessary co-ordination. It should be emphasized again that the most important contribution, which the local utility can make, is to speak with favor and confidence of electric heating and to encourage its use wherever practical.

**13. Q:** Since the Electric Service League of Ontario is promoting the Bronze and Gold Medallion Homes, is it necessary for the local utility to worry about this program at all? **A:** The promotion of the Bronze and Gold Medallion Homes is an effort on the part of the entire electrical industry to accomplish two objectives at one time. By widely publicizing homes bearing the Bronze and Gold Medallions as prestige homes outfitted for the best in modern living, it is hoped to encourage an immediate increase in the electrical load and consumption of new homes being constructed. Also, since both the Bronze and Gold Medallion Standards require that the house be fitted with adequate wiring designed to provide for many additional future uses in the home, it is hoped to encourage the construction of homes, which will have sufficient "housepower" to permit the addition of future loads as they are developed, and as they become desirable to the homeowner. Both of these objectives are very important to the utility and the utility should, therefore, play a strong part in this promotion. While the Electric Service League sponsors this program, and

polices it in the field of inspection of homes and awarding of the Bronze or Gold Medallions, its staff and facilities are limited. This promotional program cannot hope to make any major headway in the Province without the active and strong support of the local utilities.

**14. Q:** How does a utility support this program? **A:** Each utility should thoroughly inform itself about this program, and should encourage the use of the Bronze or Gold Medallion Standards in local home construction by advertising and by direct contact with building contractors. The local utility should attempt to develop as many Bronze or Gold Medallion Homes as possible, relying on the Electric Service League to handle the final details of negotiations with the building contractor, including the inspection of the home and the awarding of the Medallion.

Now is the time to co-operate in this program. The entire electrical industry will be making a very powerful effort in this promotional field this winter. For example, in September, 1959 an issue of Life Magazine included 30 solid pages

*(Continued on page 16)*



ELECTRIC WIRING for such applications as lighting, appliances and outdoor power tools will add drama to outdoor dining, entertaining and home beauty.

## VIGNETTES OF THE "HARD SELL" ERA

*—or Service with a SMILE*



"It wasn't like this in Adam Beck's day!"



"Alright—so you've been Hydro Manager here for 42 years."



"But, lady, we're not allowed to give trading stamps when you pay your bill."



"OK, let's hear the advantages of living electrically."

of promotional articles and advertising aimed at the Bronze and Gold Medallion Homes and the All-Electric Home. A reprint of this spectacular promotion in Life Magazine has already been forwarded to you, and was also sent to all electrical contractors and building contractors in your community. Please study it thoroughly.

It is very essential to the success of this program that the local utility assist and encourage to the maximum of its ability.

### Summary

We have mentioned the importance of the utility doing a number of things: (a) Contact building contractors re water heaters, electric heating and Gold Medallion Homes; (b) Set up a water heater program to protect your present load and to expand it; (c) Co-operate with appliance dealers and electrical contractors; (d) Build up "Customer Service" and make sure facilities are available to service customer appliances.

Who do you expect will handle this job on the typical utility staff?

Most utilities *will not now* have adequate or appropriate staff for this kind of work. Except in the smallest municipalities a man with sales ability should be hired and trained to do sales and service work. Utilities as small as 1500 to 2000 customers can well afford a man for this purpose.

This sales and service work is a most important job requiring local staff, and it is a big job since, in addition to water heating and home heating as already discussed, it is urged to also promote electric cooking, laundry dryers, adequate wiring, better lighting and many other uses. But this is also work which will more than repay its cost and will improve the financial position of your utility. In fact, it is becoming painfully evident that utilities cannot afford to neglect sales and service work. The most important step is to decide to embark on a load building program now and to back the decision with staff and funds. ■



# LET'S CHAT



with Gwyneth Reed of Ontario Hydro's Homemakers' Service

WINTER is a time for entertaining; quite frequently it's the type of entertaining that calls for quick snacks, buffet meals, or TV suppers. But let's use a little imagination—try to provide food that "comes from the heart as well as the hearth." Often a touch of herbs or spices added to old favorites, such as scrambled eggs or creamed chicken, establishes a reputation for cooking with a flair.

The "Kaffee Klatsch" may take place in the morning, afternoon or evening. A large pot of coffee is the prime requisite. Then, add a plate of hot breads—perhaps refrigerator biscuits, dressed up by pressing a sugar cube soaked in fruit juice into each biscuit before baking. Quick breads, such as banana, lemon or date and nut loaves, are always enjoyed, especially if the slices have been toasted and spread with orange butter.

Chili con carne is quick and easy. After strenuous exercise, such as a skating or skiing party, chili, served with rye bread or crackers and a hot beverage, makes a hearty dish. As the main feature at a buffet supper, it will star (a change from creamed mixtures).

Here's a suggested menu for an appetizing buffet supper:

*Tomato Juice  
Celery and Carrot Sticks  
Chili Con Carne  
Fried Corn Meal Cakes  
Tossed Green Salad  
Bread Sticks  
Apple Pie — Cheese  
Coffee*



## Chili Con Carne

1 pound ground beef  
1 1/4 cups chopped onion  
3 tablespoons salad oil  
1 #2 can kidney beans  
1 can tomato soup  
1 1/2-2 tablespoons chili powder  
1 tablespoon flour  
3 tablespoons water  
1 teaspoon salt

In electric frypan or saucepan, brown meat and onions in salad oil at 360°. Add beans and soup. Simmer 10 minutes at 200°. Blend flour, water, chili powder and salt into a paste. Add, stirring constantly to the hot mixture. Simmer at 200°, stirring occasionally for 30 minutes. Serves 4-6.

A handy appliance to help you prepare snacks at short notice is the electric blender. In a matter of seconds you can grate nuts, or cheese, make bread crumbs, puree meat or vegetables for sandwich spreads, whip up delicious drinks, blend savory dips for chips. During a recent blender demonstration, we saw a luscious frosting, which French chefs would spend hours concocting, whipped up in seconds.

## French Butter Cream

1 package (6 ounces) chocolate bits  
1/4 cup hot coffee  
1/4 cup confectioners' sugar

(Continued on page 24)

THIS YEAR TORONTO'S KI

# Make Mine Music

by Joan Allen

IN an age when mankind is rapidly becoming a race of spectators, music has emerged as one pastime that encourages actual participation.

One symptom of this situation is the growth in popularity of an institution known across Canada as the music festival—literally a musical celebration, which, in recent years, has contributed to a sort of renaissance in the art of making music.

Present-day Canadians live in what might aptly be described as the Age of Festivals. At Stratford, Ontario, they have one which is internationally famous—the Stratford Shakespearean Festival. There are drama festivals, film and dance festivals and strawberry festivals.

Somewhere in Canada there may

BACKSTAGE at Eaton Auditorium, Kenneth Ilson (left) glances at the music just before he and Donald Jackson join the Mundinger Accordion Band on stage.



# AL, ONE OF THE WORLD'S LARGEST, CELEBRATES ITS SEVENTEENTH BIRTHDAY

well be an underwater swimming festival, a bass fishing festival and—euphoniously—a vegetable festival. The Niagara district actually has a Grape Festival and Leamington goes festive at the height of the tomato season. In the not-too-distant future we may find we have even inherited a festival of festivals.

Although the non-competitive music festival has its merits and supporters, the universal excitement of a contest has rendered the competitive festival more popular. Probably the reason for its popularity lies in the fact that it provides an outlet for people who like to perform musically, and receive constructive, competent criticism of their performance—coupled with the sense of fulfillment that comes

with making music in company with others.

Most Canadian music festivals fit this pattern. Children and teenagers compete for prizes and trophies in a variety of classes, which are determined by their respective ages and the type of competition, such as vocal or instrumental. The musical selection chosen for each class is governed mainly by the age group of the contestants.

Then, of course, many of the larger festivals have competitions for adults, as well as bands, choirs, orchestras, and some even venture into the refined realm of poetry speaking.

During 1959, Ontario witnessed 39 major music festivals, not including dozens of smaller ones. In

all, more than 100,000 people, adults and children, participated in giving 32,218 performances in the 39 major music festivals alone.

## Toronto's Festival

Believed to be the largest competitive program of its type in the world, the Kiwanis Music Festival of Greater Toronto is being held during the last two weeks in February this year, with more than 23,000 musicians and vocalists competing—2,000 more than in 1959. A total of 14 Kiwanis Clubs in Toronto sponsor the event, which is now in its 17th year.

Following tradition, morning, afternoon and evening sessions are taking place in five different audi-

*(Continued on page 20)*



AST-MINUTE instructions from their music teacher hold the interest of three pupils from East York Township's R. H. McGregor School. They are playing recorders, first introduced in Canada by their principal, G. W. Shewfelt.



FIVE-YEAR-OLD Attila Galamb handles his saxophone like a professional, although he's one of the youngest competitors in the Kiwanis Music Festival of Greater Toronto.

TROMBONE IN HAND, Larry Beer (right) listens appreciatively to the French horn number played by Richard Chenhall.



toriums simultaneously. Two final concerts—Stars of the Festival—in Massey Hall on February 29 and March 3 will provide a grand finale for the general public.

The aim of the festival is not to develop stars, but to bring out latent talent in Ontario folk and stimulate their appreciation of music. Nevertheless, some well-known figures in the world of music first tasted success at a Kiwanis festival.

Best-known, perhaps, is Glenn Gould, world-renowned pianist, who won the Gordon V. Thompson scholarship in the first Kiwanis festival in 1944. Muriel Killby, now a concert pianist, won laurels at a Kiwanis Festival as a xylophonist, and used her prize money to study piano. Soprano Lois Marshall, who charmed audiences in Moscow recently, also participated.

At least two vocalists and one violinist who competed in Kiwanis festivals are now in Europe. Soprano Doreen Hill sings with the B.B.C., and tenor John Vickers in Covent Gardens. Violinist Betty Jean Hagan is doing a concert tour of the continent.

First recorded music competition was the Eisteddfod, forerunner of the famous Royal National Eisteddfod of Wales. King Calwaladr presided over the festivities and conferred degrees upon deserving bards, troubadors and minstrels. Such a degree was not only financially beneficial in itself, but also a teaching license. Only musicians who had been recognized by the Eisteddfod were permitted to teach.

The National Eisteddfod of Wales, now held annually in August, differs from most other music

festivals because the ancient British bardic ceremonies and customs of earlier Eisteddfod have been revived. An International Musical Eisteddfod has been held annually in Llangollen since 1947.

#### Founded in England

The earliest competitive music festival, still existing in England today, was founded in Northumberland in 1875. In a few years, the movement had spread to Canada. The first competitive music festival on the North American Continent took place in Edmonton, Alberta, in 1908. In 1909, Saskatchewan initiated a festival. Manitoba followed in 1919, and British Columbia and Ontario in 1923. The idea spread, and today smaller Ontario centres, such as Stratford, Niagara Falls, Fort Frances, Fort

William, Port Arthur and many other communities have festivals.

In Ontario, the Kiwanis Club continues to be one of the prime supporters of the music festival idea. But the movement today is fully national in scope. An organization called the Federation of Canadian Music Festivals was formed in 1952, and today it numbers 30 major festival associations as members, and is affiliated with a similar British Federation.

Although the competitive festival has an English background it has become a Canadian institution and an integral part of the lives and careers of many young Canadian musicians. One might say, like Thomas Gray:

*"Now the rich stream of music winds along  
Deep, majestic, smooth and strong."*



NOW WORLD FAMOUS, Lois Marshall participated in several of the early Toronto Kiwanis Festivals. The young Canadian soprano recently won acclaim during a Russian tour.



GLENN GOULD demonstrates his unique concert style which has won fame for him in the past few years. Gould won a scholarship at the first Kiwanis Festival in 1944.

# HOMEMAKERS SHOW HELPS HOUSEWIVES



ON HAND to greet the visitors when the show opened, Pat Ryan, manager of Ontario Hydro's St. Catharines Area, discusses the advantages of electrical living with five district ladies.



PROUD OWNERS of a new electrically-heated home, Mr. and Mrs. T. S. Piddock paused to inspect this insulation exhibit. Mr. Piddock is an employee of St. Catharines P. U. C.

ANOTHER POPULAR HIGHLIGHT was the cooking school conducted twice daily by Gwyneth Reed, of Ontario Hydro's Homemakers' Service.



TAKE two promotion-minded groups like the St. Catharines Public Utilities Commission and the Ontario Hydro St. Catharines Area Office, add a promotable commodity like electricity, and the results are likely to be good.

Most of the 2,400 St. Catharines and district residents who dropped into the city's new Canadian Legion Hall last month had to agree that it was about as bright and entertaining a Homemakers' Show as they'd seen.

Inspired by the dawn of a new decade, the proximity of National Electrical Week and the city's vigorous young electrical manufacturing industry, the show played to appreciative audiences on three successive afternoons and evenings.

Eighteen manufacturers took space (between 1,800 and 1,900 square feet of it in all) to exhibit everything from kitchen appliances to building insulation materials.

An added attraction was the information service provided by

Ontario Hydro's Jack Thompson of Sales Promotion who was on hand to answer questions about lighting.

To boost feminine interest (and attendance), the show's planners included a cooking school, conducted by Gwyneth Reed, of Ontario Hydro's Homemaker Service. Tickets to the school sessions, held each afternoon and evening, were distributed to members of the women's auxiliary groups of the two city hospitals and with good results.

"I'm sure we must have had close to 100 per cent attendance from our

group," smiled Mrs. Ivan Shea, president of the Hotel Dieu auxiliary, after the exhibit closed.

The show got good publicity. Money received from the rental of space to exhibitors, was turned back into advertising in local newspapers and radio media, along with some additional funds which the exhibitors themselves set aside for promotional purposes—\$2,500 in all.

St. Catharines radio personality, Jake Glover, taped a half-hour interview-type show on the spot, and

the tape was later aired over Station CKTB.

Necessary planning and direction was provided by a hard-working committee composed of—Ray Pfaff, manager of St. Catharines P.U.C., and Pat Ryan, manager of Ontario Hydro's St. Catharines Area Office, and other members of their staffs.

Neither felt like accepting any credit for the show. It was, they said, just another example of what could be done with a little planning and a good product.

—by Gary Smith

## THE LADIES LIKED IT!



• MRS. S. E. SHEEHAN, a member of the Hotel Dieu auxiliary, says her kitchen is "just about as all-electric as it can be."

Mother of a large family, Mrs. Sheehan still finds time to attend events like the Homemaker's Show. She was one of those who sat in on the first afternoon session of the cooking school.

How did she enjoy the cooking demonstration? "Just fine. I have a new daughter-in-law, you know, and I'm coming back tonight and bringing her to the show."



• MRS. IVAN SHEA, president of the women's auxiliary of St. Catharines Hotel Dieu hospital, says tickets to the cooking school (which the show's organizers handed over free of charge) went fast at fifty cents each.

"It was good of the Hydro people to give them to us because it enabled our two groups to sell them and make a tidy profit." Proceeds from the sale of tickets were split 50-50 by the two hospital auxiliaries.



• MRS. RUTH GAINS, president of the women's auxiliary of St. Catharines General Hospital, likes the idea of holding a cooking school in conjunction with the exhibition of electrical appliances.

"Did you notice how many of our ladies stayed to look at the exhibits after the cooking school session?"

What impressed her most about Miss Reed's cooking demonstration? "I liked her choice of recipes. They were all inexpensive ones and relatively easy to prepare."

## AFTER NEARLY HALF A CENTURY HYDRO'S "BILLY" MARSH RETIRES

(Etobicoke Press)

**T**HREE'S a line down Billy. Get it up. Restore service, fast." Curt, crisp commands crackled through the freezing western Ontario telephone wires as Adam Beck, boss of the infant provincial Hydro commission fired orders at Billy Marsh, his youngest foreman. The line was repaired. Service was restored and Billy Marsh continued his hazardous work of maintaining the high tension lines stretching to feed the growing power network.

The year was 1914. Adam Beck, later knighted by King George V, went on to fame as the founder of the world's largest publicly-owned electrical system. Recently at Etobicoke Hydro, William A. (Billy) Marsh brought to a climax a near half century of dedicated Hydro service.

As he turned the key for the last time in the office door marked "Hydro Superintendent" and retired to his Prennan Avenue bungalow, Mr. Marsh took with him cherished memories of an epoch that very few men are privileged to enjoy today.

From the cavalier days of 1912 when "Beck's men" were pushing the frontiers of electricity to the distant points of the province, through to the 1929-1959 era, when Etobicoke Township was suddenly transformed from a cluster of quiet villages to a thriving municipality, Bill Marsh has played a key role. His many friends at Etobicoke Hydro know this.

They gathered, over one hundred and fifty strong in the Colonel Streight Memorial Hall on Bloor St. West recently to honor the man whom they recognize as not only a good friend and boss, but one of the outstanding men in Hydro history.

"I really hate to go," said Mr. Marsh when addressing the gathering following presentations by Dr. V. S. Wilson, the Commission



chairman, R. C. Wardlaw, vice-chairman, and V. Duggan, assistant superintendent, "but after thirty years with Etobicoke Hydro and a previous seventeen years with the Ontario Commission, I think I'll enjoy a little rest."

What he calls a rest promises to be a busy, but enjoyable session for his wife, Mrs. Myrtle Marsh. Between visits with five grandchildren at the Islington homes of their daughters, Mrs. Myrtle Ramsay and Mrs. Viola Hoare, and a possible trip to the Vancouver home of their third daughter, Mrs. Mildred Smith, Mr. and Mrs. Marsh hope to travel the province in the coming months and meet some of Bill's old friends of years ago.

When spring returns again, Bill Marsh, Superintendent (retired) Etobicoke Hydro Commission, will be enjoying life in the garden he loves so much and which is said to be one of the most colorful in Islington. And when he lifts his head at the pound of the whirling blades of a Hydro helicopter as it patrols the lines reaching out from the nearby A. W. Manby Transformer Station, he'll smile and remember the days when it took him nearly two weeks to walk 150 miles of lines, that today's airborne Hydro crews inspect in less than five hours. ■

## ELECTRICITY & EMPLOYMENT

*Continued from page 1)*

by science and the electrical manufacturing industry in designing and producing new electrical appliances, as well as labor and cost-saving machines for use in our homes, our factories and on our farms.

This is particularly evident when one considers that, for the past five years, electrical manufacturing in Canada has averaged over \$1 billion in production annually. While Canada's gross national product is at least six times greater than it was a decade ago, the production of the electrical manufacturing industry is 11 times greater.

Thus, after considering the foregoing facts, it should be apparent that the predominant theme of National Electrical Week—"Electricity Builds Job"—was not just an idle platitude. ■

## LET'S CHAT

*Continued from page 17)*

4 egg yolks  
½ cup soft butter  
2 tablespoons rum or brandy (optional)

Put chocolate bits into dry container of blender. Blend on high speed for 6 seconds. Turn off and scrape down sides with a knife. Add coffee and blend 6 seconds. Add rest of ingredients and blend 15 seconds. All blending is done with the cover in place.

To make up a party dessert called "Dobosh Torte," slice a pound cake into six thin layers with a serrated knife. Put layers together with French Butter Cream between and frost top and sides of cake. Store in refrigerator.

Besides being a versatile appliance, the blender needs little care. Simply fill the container one-third full of warm water. Add a few drops of detergent, cover and blend a few seconds. Rinse and drain upside down.

To make your fourth—or snack-meal a success, combine food, a dash of imagination and electrical appliances. You'll be glad you did. ■

# FORT WILLIAM'S NEW HOME

Lakehead City

proudly inaugurates

handsome and modern

Hydro headquarters

**F**ORT William has done it again! Two years ago the Hydro-Electric Commission of that progressive Lakehead city completed and placed in operation a two-storey, \$208,000 service centre to handle all the technical activities of the expanding utility.

At the same time, plans were on the drawing board for a new office building. Instead of moving to an entirely new location, the Fort William Commission wisely decided to erect a new and modern structure on the downtown site of its office and adjoining service building.

Their decision has been fully vindicated by the result. Today the 19-member office staff, under Manager

A. W. H. Taber, is happily at work in the new electrically-heated, air-conditioned headquarters, which they justifiably consider one of the finest civic structures of its type.

A corner location with ample windows, supplemented by the latest in fluorescent lighting equipment provides glare-free illumination in the spacious general business office, as well as the other harmoniously decorated offices of the one-storey building. Red brick, colored ceramic tile and granite impart distinction to the exterior.

Characteristic of the Fort William Commission, additions of staff and acquisition of extra equipment will not tax the present capacity for

*(Continued on page 26)*

OCCUPYING a favored corner in the downtown section, the new office building of Fort William Hydro-Electric Commission is designed for a second storey to meet future expansion.





several years. When expansion becomes necessary, the present building is designed to permit construction of another storey.

#### Civic Housewarming

During January this year, the Fort William commissioners and staff proudly opened the doors for a civic "house-warming."

Citizens and guests from many outside points were present to inspect the new building during the official opening ceremonies under the guiding hand of Chairman Gordon Carson.

Offering their congratulations to the utility were Mayor Norman Wilson, Port Arthur; Fort William's Mayor Catherine Seppala, Hon. George C. Wardrope (M.P.P., Port

Arthur); Ontario's Minister of Reform Institutions, and John Chapple, M.P.P., Fort William, while Rev. L. D. Begg, president of Fort William Ministerial Association dedicated the building.

Key figure at the inaugural event was W. Ross Strike, Q.C., first vice-chairman of Ontario Hydro. Mr. Strike climaxed his address by waving his hand to break the path of an electronic beam which automatically switched on the lights of the building—a unique change from the traditional ribbon-cutting ceremony.

#### Numerous Features

The speaker congratulated the Fort William Commission on their foresight in providing an office building that would meet the re-

quirements of the growing city for many decades. He also drew attention to its numerous functional and aesthetic features, that would add to the efficiency of the staff and their desire to provide the best possible service to the utility's customers.

The new building, represented another milepost in the advancement of Fort William from a struggling hamlet which built a small 200-horsepower steam plant to serve its modest requirements in 1898, he said.

#### Aided Progress

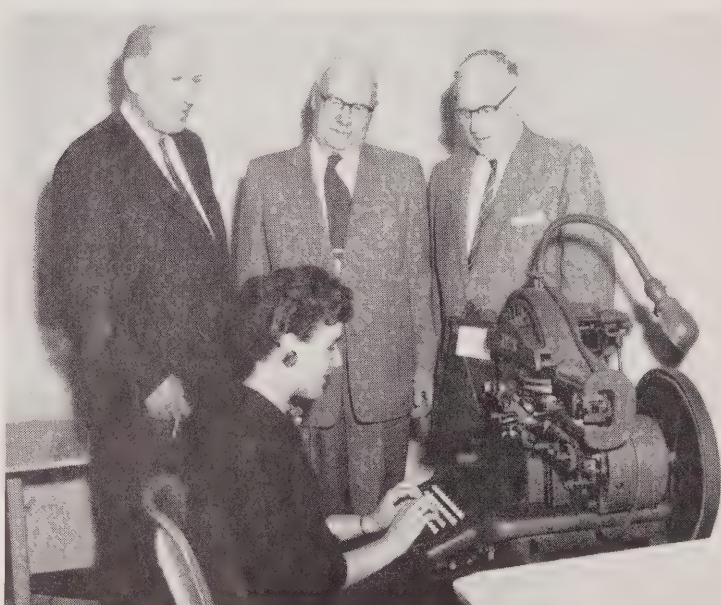
From that time forward, the citizens of Fort William have made an increasing use of electricity, which has been responsible, in many ways,



CONGRATULATIONS from Port Arthur were extended to Chairman Gordon Carson by Mayor Norman Wilson (left) and Ontario Hydro's First Vice-Chairman W. Ross Strike. Seated (left to right) are: Manager A. W. H. Taber, Commissioner John R. Aiken and Mayor Catherine Seppala.

spacious main business office, a color scheme combined with natural artificial light, helps to create aable customer impression.

THREE WELL-KNOWN NORTHERNERS (left to right): D. I. Nattress, manager of Hydro's Northwestern Region; Alderman C. H. (Sandy) Moors, former Fort William Hydro Commissioner, and R. B. Chandler, retired manager of Port Arthur P.U.C., watch Linda Dunlop operate the addressograph machine.



for the city's successful development.

Within the past 20 years, the number of Hydro customers has almost doubled, while there has been a virtual quadrupling of their use of electrical energy.

"This is, of course, understandable when we consider the superior flexibility of electricity over other forms of energy and the fact that only a few years ago there were only six or seven electrical appliances available to the average domestic customer. Today there are approximately 60 suitable items for home use and even more amazing appliances are on the threshold."

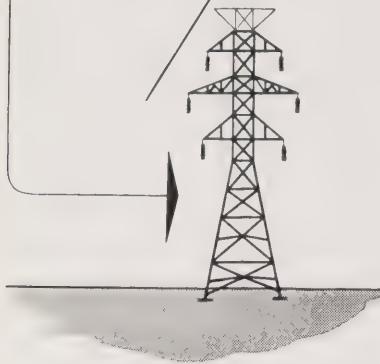
Completion of the Fort William Hydro headquarters, Mr. Strike continued, was not an accident, but

the result of careful planning and administration by the staff as well as present and past commissioners.

Expressing congratulations on behalf of Ontario Hydro, Mr. Strike said the provincial commission had manifested its confidence in the future of Northwestern Ontario when it began its first hydro-electric development at Cameron Falls on the Nipigon River.

"It has re-affirmed its faith in your future on many successive occasions since that time," he pointed out in concluding his remarks. "Today, the Commission is constructing a new thermal-electric station. It is situated near the spot where you first built that first little steam plant in 1898 but it will have an initial capacity of 100,000 kilowatts."

# ALONG HYDRO LINES



## London renovates Utility building

Part of the "new look" for the fourth floor of the London P.U.C. building will be a demonstration kitchen where interested groups can inspect the most modern electrical equipment.

Renovations, at an estimated cost of \$70,000, will also increase space for the recreation department, the new electrical utility promotion department, accounting and personnel offices and London and Port Stanley Railway Commission offices. Kenneth Burgess, formerly recreation director with Chatham P.U.C., has joined the recreation department as a second assistant recreation director.

## Rental plan at Ingersoll

Reduced rates for flat rate water heaters and a water heater rental program were approved recently by Ingersoll P.U.C. Net savings to the customer will range up to 62 cents per month under the new rate schedule.



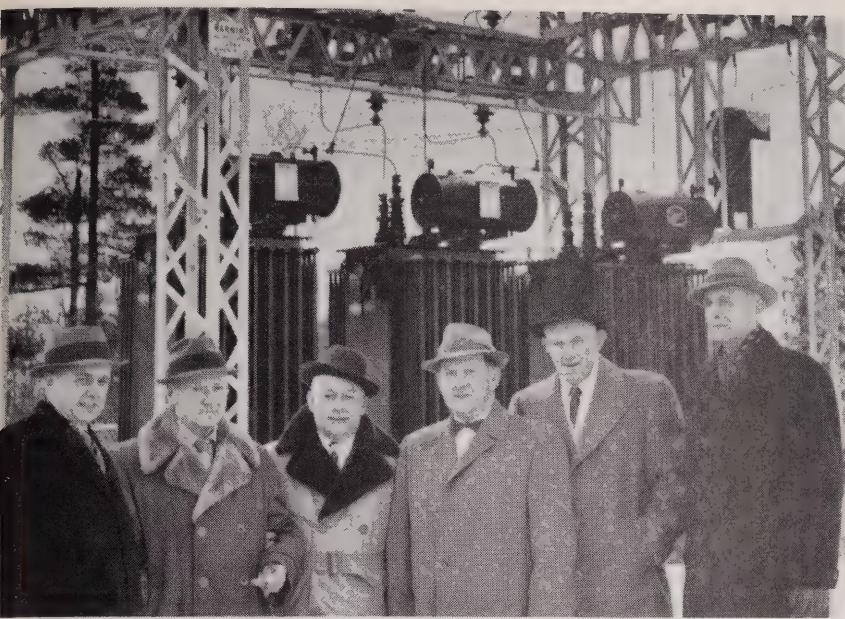
## NORTH BAY HONORS CHAIRMAN

CHAIRMAN A. T. SMITH (right) of North Bay Hydro-Electric Commission, was guest of honor at the opening ceremonies of the new A. T. Smith substation in North Bay. North Bay has honored a number of its Hydro chairmen by naming

substations after them. In front of the new substation following the ceremony are, from left: E. A. Magee, line superintendent; Commissioner Bruce McCubbin; Manager B. M. Graham; W. A. Hill and Mr. Smith.



NEW SUBSTATION for Smith Falls was officially opened recently. Attending were (from left): Clarence Labelle, superintendent; Warren Peters, Dr. W. O. Murphy, chairman of Smith Falls Hydro, and Gordon McNeely, manager. Cost of the new station totalled \$40,000.



## WEST FERRIS VETERAN HONORED

FIFTY-THREE years' association with electrical service in the West Ferris Township area was appropriately rewarded when the town's new substation was officially named in honor of W. R. Stewart, chairman of West Ferris Hydro. Attending the formal opening recently were (from left): H. R. D. Graham, manager of Onta-

rio Hydro's Northeastern Region; Mr. Stewart; Commissioners I. B. Bowness and Reeve W. J. Forth; William Barkhouse, superintendent, West Ferris Hydro; and William Geden, township clerk-treasurer. The W. R. Stewart Substation No. 2 has a maximum potential of 3,000 kilowatts. ■

## Install large underground system near London

Reported to be the largest in a Canadian subdivision, a new underground electrical distribution system is being installed in London Township at an estimated cost of \$148,050.

The first major underground system to be constructed by Ontario Hydro, it is scheduled ultimately to serve 423 homes in the Oakridge Park subdivision, of which 185 homes will be serviced this year. Only service pedestals and occasional kiosks housing transformers will be visible. Ontario Hydro has awarded the contract to a Sarnia contractor.

It is expected that telephone wires will also be put underground, and an underground television antenna cable is contemplated.

## Retiring commissioner feted at Owen Sound

Presentation of a cowhide club bag to 1959 Vice-Chairman Norman L. Smith, who recently retired after a 9-year period in office, highlighted a recent Owen Sound P.U.C. meeting. Lt.-Col. A. A. Kennedy, chairman, expressed appreciation for the years of service given by Mr. Smith and presented the gift to him on behalf of the utility. Mr. Smith has been succeeded by Norman Robertson.

## London honors retiring secretary

Secretary of London P.U.C. since 1952, George Fraser retired recently, ending a 26-year career with the commission. At the last meeting he attended officially, Mr. Fraser was presented with a portable television set.

A native of London, Mr. Fraser joined the P.U.C. in 1933 as a member of the Hydro shop staff. He was engaged in special work with the London and Port Stanley Railroad before becoming secretary of the commission. Charles Kew will succeed Mr. Fraser as secretary.



"ONE FOR THE ROAD" was a hot cup of tea. At the conclusion of the Canadian Highway Safety Council two-day meeting in Ottawa recently delegates set a good example for others. From left are: Chairman C. B. C. Scott, Ontario Hydro's assistant general manager—personnel; G. R. Shannon, safety officer, and Manager A. M. Pedersen, of Hydro's Eastern Region.

## Home heating rate reductions announced

Rates for electric home heating in Sandwich West Township and the Trafalgar Township area have been reduced, local utilities announced recently.

In Sandwich West Township, the new rate of 1.5 cents per kilowatt-hour, which replaces the old rate of 1.6 cents per kilowatt-hour, will reduce rates by 6½ per cent. D. H. Pope, manager of Sandwich West Township System, said the township's new heating rate is now equal to the lowest in Ontario.

Customers of Trafalgar Township P.U.C. who heat more than 25 per cent of their floor area by electricity will also enjoy a special rate of 1.5 cents per kilowatt-hour. This represents a reduction of 12 per cent from the old rate.

## Dryden rate reduction

Dryden Hydro-Electric Commission recently announced rate reductions which involve a general lowering of resale rates by approximately 15 per cent, effective January 1, 1960. In January, 1959, the commission reduced its electric water heater rate 12 per cent.

During the first nine-month period of 1959 a net profit averaging \$5,000 per month was realized. Chairman William Nygren recently estimated the net profit for the entire year should total \$60,000.

## Not convinced

The Hydro meter reader stood looking doubtfully at the snarling, barking dog. It was a large, shaggy animal with a hungry look and while it was chained, the chain was long enough to allow the dog free run past the front door of the house.

The lady of the house opened the front door. "Don't be afraid of him. You know the old proverb: A barking dog never bites."

The meter reader mopped his forehead: "Yes, ma'am, you know the old proverb, I know the old proverb, but does the dog know the old proverb."



## ON THE MOVE

**E**LECTRIC SCOOTERS provide Ontario Hydro workmen with swift and easy transportation through miles of corridors in the depths of the Robert H. Saunders-St. Lawrence Generating Station. Sydney Sparks is in the driver's seat of one

of the three-wheeled vehicles. Formerly, men walked their twice-a-shift patrol, often carrying equipment with them. The simple three-battery engine in the two-seater scooter is re-charged simply by connecting a plug to a wall socket.



LONG SERVICE as a meter reader with Sudbury Hydro-Electric Commission recently merited Ozzie Wickenden (centre) a 25-year service certificate and a \$50 Canada Savings Bond. Making the presentation were Chairman E. C. Dash (left), and Commissioner W. E. Edwards.

## RETIRE WITH 77 YEARS' SERVICE

(Mimico Advertiser)

Two Mimico men, both superintendents, retired January 1, after completing 77 years' continuous service.

Herbert "Bert" Bush, 65, retired after 43 years as Foreman and Superintendent of the Hydro division of Mimico Public Utilities Commission.

Oscar Lawson, 75, appointed Superintendent of the Waterworks division from 215 applicants in 1925,

Humber Bay and part of Etobicoke," he recalled.

"Quite often the power, only used for lighting, would be off a day or two before we knew about it, because there were only half a dozen phones west of the Humber," Mr. Bush said. "Today, power wouldn't be off two minutes until we knew."

Mr. and Mrs. Bush have a family of eight—five sons and three daughters, and 20 grandchildren.



completed 34 years' continuous service to the town.

Amos H. Waites, PUC chairman, 20 years as a commissioner, and Albert "Alf" Bowles with 39 years' service in the Hydro department, also veterans, joined with other staff members in giving the two men an official send-off.

### Saw System Grow

When Mr. Bush started, there were only 250 electrical services in the town, which had a population of 800. Today the town has over 17,500 population and more than 6,000 electrical services. About one-third are in apartments.

He recalled that the peak load was 300 kw, while today it is over 10,000 kw.

"We used a horse and wagon in the early days with just two of us on the staff," said Mr. Bush. There are 16 today.

"We served not only Mimico but

Mr. Lawson, born on a farm near Newmarket, joined Mimico PUC staff after a number of years with machinery companies installing equipment.

He installed single-handed the first 1,000 water meters in the town.

"Mimico was mostly open fields and I remember many times picking mushrooms on my way to work and bringing them home and eating them for supper," recalled Mr. Lawson.

Travelling cases were presented to both men at the dinner which was attended by every member of the public utilities staff except one—Ted Eldred, a lineman, was helping out in Orangeville, Ont., where storm damage was being repaired by all available workers. From the left (in the accompanying photo): James Edmond, vice-chairman, Mr. Lawson, Chairman Amos H. Waites, Mimico Mayor Gus Edwards and Mr. Bush.

### Port Colborne honors Austin Jordan

Hydro officials gathered recently to honor E. Austin Jordan (third from left) on his retirement from Port Colborne Hydro Commission. Mr. Jordan had been Secretary-Treasurer of that commission since



(Port Colborne Newsphoto)

1931. Among those present at the retirement dinner were (from left): Chairman E. H. Barrick and Commissioner W. J. Smith, Mr. Jordan, Mayor H. H. Knoll, Superintendent A. E. Fort, and Harvey Philip, general manager, Trafalgar Township P.U.C. Mr. Jordan was raised in Guelph, and joined the C.N.R. staff at Hanover, Ontario. Transferred to Port Colborne in 1915, he was chief clerk when he left to join the Port Colborne Hydro Staff.

### Petrolia puts range installation on free basis

Petrolia P.U.C. recently approved a motion providing free wiring installations for electric ranges of Petrolia home owners. The P.U.C. will have their installations inspected.

Previously home owners were paid \$25 toward the installation of the range.



## POWER PIONEER, R. T. JEFFERY, DIES AT HOME

**R**ICHARD Thomas Jeffery, 80, a key figure in Ontario Hydro's development for 38 years, died recently at his Thornhill home (37 Thornbank Road).

Following four years with the Toronto Electric Light Co. and consulting engineer in the construction of early Trent Valley power stations, Mr. Jeffery joined Hydro in 1913, seven years after its formation.

In 1914 he was appointed municipal engineer on Hydro's Niagara System and was subsequently named municipal engineer for all Hydro systems in Ontario. He held this position until 1947, when Hydro's province-wide operations were divided into nine regions for administrative purposes.

Mr. Jeffery continued important consulting work with Hydro until he and his twin brother, the late J. J. Jeffery, who had been his assistant, retired in 1951.

Born in Toronto, the brothers had graduated from Queen's University together and joined Hydro the same year.

Mr. Jeffery was a member of West End Y.M.C.A. board of directors and Metropolitan Toronto Y.M.C.A. board of governors. He



R. T. JEFFERY

was also a member of the Association of Professional Engineers of Ontario, Rotary Club of Toronto, Granite Club, Rameses Temple and Delta Lodge A.M. & F.M. No. 634. He was an elder of Deer Park United Church.

He leaves his widow, Sue Smith Jeffery; two sons, a daughter, and four grandchildren.



RETIRING RECENTLY with a distinguished record of 38 years' service, Ontario Hydro's General Manager, A. W. Manby, was honored by a large group of colleagues and friends, who presented him with a substantial purse for the express purpose of buying a painting of his own choice. To supplement the momentary lack of the tangible art, he received a framed "replica" of the large mural in the Robert H. Saunders-St. Lawrence Generating Station.

Judging by the expressions of his colleagues (whose photos were cleverly concealed in the painting), it was a moment of humor in the program, which witnessed many tributes to Mr. Manby's abilities and his service to the Commission. Shown admiring the painting were (from left): Mr. Manby, First Vice-Chairman W. Ross Strike, Commissioner D. P. Cliff, the new General Manager, J. M. Hambley, Commissioner Lt.-Col. A. A. Kennedy and Chairman James S. Duncan.

### Realtors enjoy Hydro falls tour

Members of the Ontario Association of Real Estate Boards began their annual convention in Niagara Falls with a tour of the area's most impressive natural and man-made spectacles.

As guests of Ontario Hydro, they viewed Whirlpool Rapids, Hydro's floral clock, and the falls themselves from the vantage points of Table Rock House and Falls View.

Highlight of the tour was an inspection of Sir Adam Beck-Niagara Generating Station No. 2 which, together with its pumping-generating station, is Ontario Hydro's largest source of hydro-electric power.

The visiting realtors were also handed kits containing informative material on all-electric homes and electric home heating. It's a subject which has aroused increasing interest among real estate men in the province. Although a relatively new application of electricity in Ontario, electric heating systems have been installed or ordered by 500 homeowners. Ontario Hydro estimates that the number of electric home heating installations will reach 64,000 in the 1960s and 250,000 by 1980.

### Killaloe joins Hydro family

Killaloe will purchase power from Ontario Hydro and extend facilities required for distribution of power to village customers. Voters recently approved the proposal to purchase power on contract from the Commission, and to acquire the necessary plant and equipment, as well as certain extensions to the distribution network by a debenture issue of \$40,000.

### Industrial representative

E. J. Bryant, former chairman of Whitby P.U.C. has been named as the utility's first representative on the local industrial commission.



MARCH 1960

# ONTARIO HYDRO NEWS



# ONTARIO

## THE COMMISSION

JAMES S. DUNCAN, C.M.G., LL.D.  
Chairman

W. ROSS STRIKE, Q.C.  
First Vice-Chairman

HON. ROBERT W. MACAULAY, Q.C., M.P.P.  
Second Vice-Chairman

LTCOL. A. A. KENNEDY, D.S.O., E.D.  
Commissioner  
D. P. CLIFF  
Commissioner

J. M. HAMBLEY B.Sc.  
General Manager

OTTO HOLDEN, B.A.Sc., C.E., D.Eng.  
Chief Engineer

ERNEST B. EASSON, B.Com.  
Secretary

## EDITORIAL BOARD

JAMES S. DUNCAN, C.M.G., LL.D.

DR. V. S. WILSON  
President, O.M.E.A.

HARRY HYDE, F.Eng.  
President, A.M.E.U.

J. M. HAMBLEY B.Sc.

OTTO HOLDEN, B.A.Sc., C.E., D.Eng.

ERNEST B. EASSON, B.Com.

JAMES A. BLAY

BOYD L. GRAHAM

Editor - BOYD L. GRAHAM

SUBSCRIPTION: \$5.00 PER YEAR

Published by  
The Hydro-Electric Power Commission of Ontario  
620 University Avenue, Toronto.

Authorized as second class mail, Post Office  
Department, Ottawa.

Material published in Ontario Hydro News may  
be reprinted without permission.  
Most photographs are obtainable on request.



Member of the Canadian  
Industrial Editors Association  
and the International Coun-  
cil of Industrial Editors.



MARCH, 1960

VOL. 47, NO. 3

## CONTENTS

PAGE

### Meeting The Test

2

Ontario Hydro's Research Division has  
numerous achievements to its credit

### It's A Model

6

Many countries study Ontario's Workmen's  
Compensation Board operations

### Taxing Times

10

Canadians get ready for the 1960 deadline

### Kitchen Comforts

14

Modern housewives have it easy

### Grandma Used 'Em

18

Morrisburg museum salutes U.E.L. pioneers

### Engineers and Art

22

Some glimpses of the A.P.E.O. annual exhibit

### Third Claim to Fame

24

Eastern Ontario's first natural gas-operated  
generating plant

### Let's Chat

26

With Hydro's Homemakers' Service

### Along Hydro Lines

27

Capsule review of utility activities and  
operations

## COVER "SHOTS"

OUR Canadian readers will need little explanation of the significance of this month's covers, for who hasn't longed for the return of the maple syrup season or the spring "break-up"?

## HYDRO NEWS

## This Underground Problem

DURING the present winter, we have had an opportunity to witness the unpleasant and devastating effects of wind and ice on electric transmission and distribution lines, as well as on communication facilities.

This, naturally enough, has focused public attention on the question of placing electrical distribution systems underground. Therefore, it seems appropriate at this time to give some attention to this problem and to put it into its proper perspective. For it is apparent that some public-spirited citizens are not aware of either the background of overhead electrical systems or the complex problems — notably the cost — associated with placing them underground.

The reason for erecting distribution lines and transformers on poles originally is aptly explained in a brief on residential environment and distribution systems recently presented to the Royal Architectural Institute of Canada by the Association of Municipal Electrical Utilities (of Ontario). As the brief points out, overhead construction has been almost universal on this continent, due to the necessity of extending service to as many customers as rapidly as possible at the lowest per unit cost.

Many municipalities have, however, made notable advances toward the goal of improving system design and efficiency in the last decade. As the A.M.E.U. brief observed: "Many of our towns have used underground construction in their major load areas, possibly due to economic reasoning, but, nevertheless, achieving the goal of improved community appearance."

The fact that many utilities recognize the importance of aesthetic values in their communities was more than apparent in the report of Bert Merson, chairman of the Toronto Hydro-Electric System, at a recent dinner for Toronto civic officials.

Speaking of the utility's underground system, Mr. Merson reported that Toronto Hydro had spent more than \$25 million on these facilities in the last decade — "much of which has avoided additional overhead lines entirely." In this period, too, some 2,200 wooden poles, including some 900 last year, have been removed from about 32 miles of city streets.

The Toronto Hydro Chairman also revealed the significant fact that the cost of placing the System's entire distribution network underground would mean an expenditure of about \$400 million — an amount equal to the cost of two subways.

In a presentation to the Legislative Committee on Energy a few days ago, Ontario Hydro Chairman James S. Duncan stated that the cost of changing the whole Southern Ontario System distribution network to underground would range between \$2.2 and \$3.6 billion. Naturally this cost would have to be passed on to the Commission's customers, including the municipal utilities and those served by the rural network. Assuming that the project would cost \$2.2 billion, the municipal utilities would find it necessary to increase their rates 2.54 times to meet the higher wholesale power rate, quite apart from the heavy additional costs involved in changing their own distribution systems. The Commission's rural customers would have their rates increased 3.15 times.

Financing such a program would, moreover, impose a heavy, if not an impossible burden of debt on most municipalities of the Province at a time when their borrowing capacity is limited and competition for the investor's dollar is particularly keen.

The impact of high interest rates on public borrowing was well illustrated by Mr. S. Duncan in his address to delegates during the O.M.E.A.-A.M.E.U. annual meetings this month: In 1954, borrowing \$100,000,000 at the prevailing rate would have cost Hydro \$71,200,000 in interest over 20 years. At the rates which the Commission paid for its most recent bond issue, the interest would be \$125,600,000 — or \$54 million more.

Thus it should be apparent to even the most casual observer that aggressive demands for wholesale burial of electrical facilities is not in the best interests of the province as a whole at this time. As Mr. Duncan pointed out in his brief to the Legislative Committee: "The obvious approach to this problem is the one presently being implemented by many of our larger utilities, namely of progressively placing underground our distribution systems in downtown high load areas and in new subdivisions." •



HOW DO ELECTRIC WATER HEATERS affect municipal utility loads? The Research Division is collecting data at London, Ont., from instruments attached to 50 special heaters in city homes.

EXTRA-HIGH-VOLTAGE transformers and associated station facilities at Hydro's Cold-water project. The bushing-top housings contain Research Division metering instruments, and incorporate line disconnecting switches.



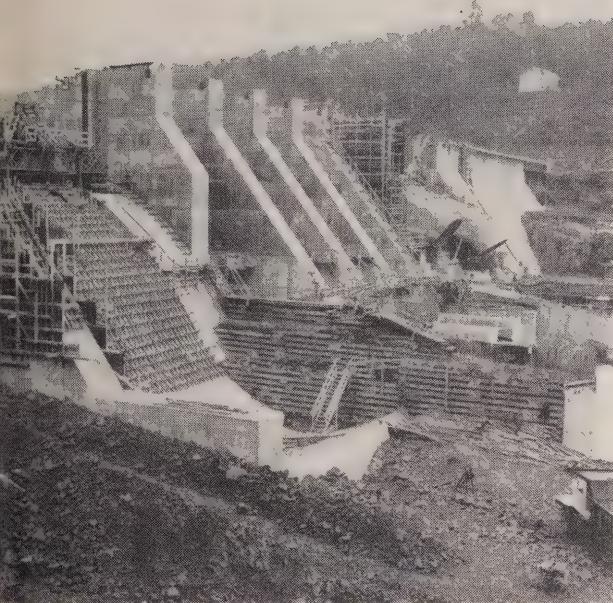
# MEETING THE TEST

TELEPHONE calls keep pouring in at an Ontario Hydro Research Division project in London, Ont., but nobody's on the line.

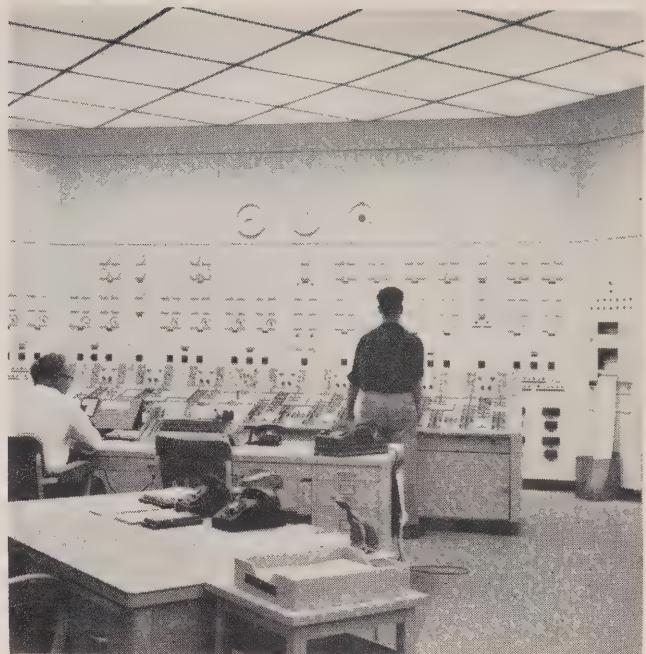
Sounds like a nuisance, but, to Hydro's testing engineers, it's all in the day's work of seeing that the Commission and its customers get the most and best for their money.

These calls buzz automatically over special telephone circuits from instruments attached to about 50 electric water heaters in London homes. Converted into meter readings, impulses provide data to show how loads on municipal electrical systems are affected by the new high-input, fast-recovery heaters.

The survey uses two of the five types of heater which have been



MORE EFFICIENT concreting methods recently adopted for dam construction include simplified formwork. Adequate safety from cracking has been effected by laboratory and field tests.



THIS HIGH-SPEED PRINTER (right) used in an operations recorder, which was developed for Sir Adam Beck-Niagara G.S. No. 2, registers the operations of all circuit breakers, relays and alarms as they occur.

## ONTARIO HYDRO'S RESEARCH DIVISION DEALS IN PROGRESS AND ECONOMY

by J. G. Foster

selected to satisfy the requirements of all domestic customers. Laboratory tests are also proceeding on a heater with three elements instead of two, which is expected to reduce the "on" time of the high-input upper element and thereby cut the size and cost of the tank.

Ontario Hydro's testing and development program is not limited to water heaters, of course. In co-operation with other divisions and departments, the Research Division has affected all kinds of Hydro operations, and its recommendations have led to millions of dollars in savings.

### Brush Control

For example, one project alone has saved well over \$5,000,000—

application of growth-destroying herbicides has replaced hand labor in clearing brush from the Commission's extensive transmission line rights-of-way. It is essential that these power "corridors" be kept clear of any scrub growth or vegetation, which would block access for maintenance and eventually interfere with transmission lines.

The program has been accelerated by the use of Operations Division helicopters for spraying in remote northern areas where the "going" would be tough or impossible for the Forestry Department's mobile ground equipment. Last year, helicopters treated some 4,300 acres of right-of-way with chemicals.

Evergreens are more resistant than other trees, but continuing investigation has evolved practical methods of controlling their growth using ground equipment and three types of chemical. Progress also has been made in the study of evergreen control from the air.

As a result of the division's recommendations, plans were changed for lubricating construction and automotive equipment when the Sir Adam Beck-Niagara Generating Station No. 2 was being built.

The Construction Division carried out the changes, which saved more than \$150,000 in materials alone in the first year of the

*(Continued on page 4)*



IN THE STUDY of air pollution, instruments such as these are used to measure dust fall-out and the prevalence of sulphurous gases. Here Ted Chadwick, assistant technician, is replacing a gas-absorbing core.

five-year job. The same methods have been used at subsequent construction projects, resulting in similar significant economies.

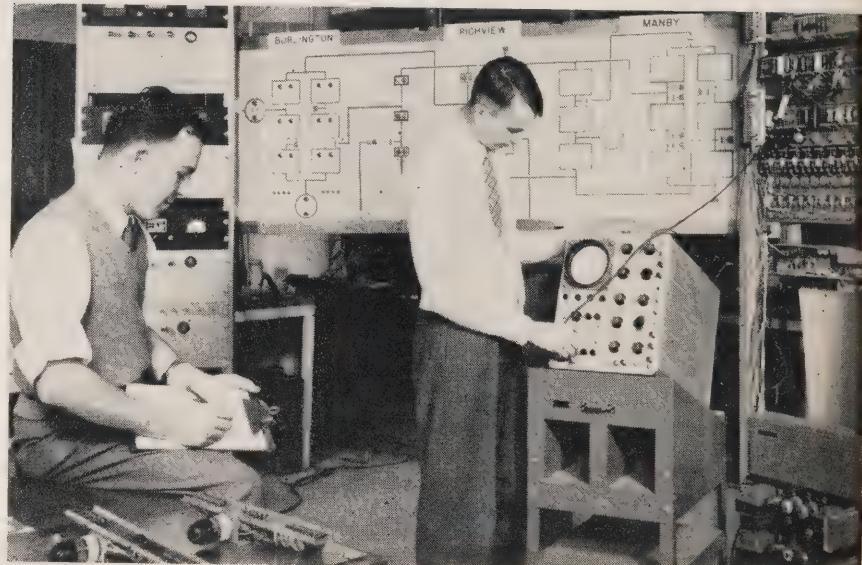
Hydro developed the "dumb-bell damper" about 25 years ago to overcome fatigue failures in transmission line conductors through vibration caused by wind. Further studies have established the feasibility of reducing the required number and weight of dampers per span, resulting in a saving of some \$100,000 in 1958 construction.

Major economies are also expected from the application of water cooling to underground cables, permitting them to operate at higher loads.

Transmission circuits along Toronto's Lakeshore Road can be cooled by a revolutionary method developed in 1957 by the Research Division, in collaboration with the Engineering and Planning Divisions. This system will pass water through polyethylene tubes laid between the cables. Now the Research Division is participating in tests of a method in which the coolant would flow through a pipe-type line in direct contact with the cable sheath.

#### Construction Techniques

Laboratory engineers and scientists, through original testing and the adaptation of other developments to local conditions, have enabled Ontario Hydro's designers to



RESEARCH DIVISION engineers developed the electronic remote annunciator to indicate the operating state of all circuit breakers on the Commission's 230-kv system in Southern Ontario.

apply new materials and techniques advantageously in many fields of construction:

- Increased control of leakage through construction joints in dams and powerhouses has been achieved by comparing several materials used for waterstops, and by investigating various shapes and sizes. Greater permanence and effectiveness have been assured by selecting the most suitable plastic composition in preference to metal formerly used, and by improvements in the original commercial shapes.

- More efficient concreting methods recently adopted for dam construction include simplified form construction suitable for shallow lifts. Adequate safety from cracking with this type of construction has been effected by laboratory studies and field measurements. These tests led to control of the placing sequence, and to the inclusion of fly ash and entrained air in the concrete. Fly ash, a product of thermal-electric plants, promotes temperature control and economy in concreting operations, while the entrained air contributes



"HEY, Sam, is the coffee ready?"



BEFORE TESTING INSULATION, Mashe Kurtz uses a standard power-factor unit to check a capacitance test bridge in the lab.

to greater weathering resistance besides facilitating concreting work.

• Studies in the Soils Laboratory have resulted in more precise knowledge of soil properties for design purposes and better methods of soil handling and control, including placement under water for embankment construction.

• New uses have been found for epoxy resin (a liquid which sets hard in about an hour) for in-place repairs to many large pieces of electrical equipment which would otherwise have to be taken

## SOME IMPORTANT PRODUCTS OF ONTARIO HYDRO'S RESEARCH DIVISION:

- Ontario Hydro was the Canadian originator of safety testing of electrical appliances. This important work is now handled by the Canadian Standards Association Approvals Division.
- Pioneering experiments in the scientific mixing of concrete, replacing the old method of using arbitrary proportions, were first conducted by the Research Division staff.
- Research Division engineers also invented the soniscope, an instrument employing ultrasonic principles to test the soundness of concrete in large Commission structures.
- Several thousand miles of high-voltage conductor have been inspected by the bolometer, designed by the Research Division to detect overheated transmission line joints.

apart and re-assembled. This has reduced considerably the difficulties, delays and expense inherent in conventional methods. For example, epoxy resin can now be used to fill gouges in field coil insulation of frequency changers without removing the coils, thus reducing the time and cost to less than one-tenth of that involved in the standard method.

• A survey indicates most watt-hour domestic meters might be replaced about every 32 years instead of being serviced every eight years, as Canadian Government regula-

tions now demand. This would mean the money spent servicing meters each year in Canada could be reduced to one-quarter of today's cost of about \$3,000,000. In this connection, the Government will study 100,000 meters this year in co-operation with electrical utilities.

### EHV Projects

• Engineers in the electrical field—not only across Canada, but in many other countries—are following Hydro's extra-high voltage

(Continued on page 25)



IT'

LAST December, as most Canadians were preparing to celebrate Christmas, Sten Eriksson boarded a 'plane to return to his native Sweden. His briefcase bulged with the culmination of weeks of study . . . a report for his Swedish colleagues on Canada's unique organization, the Workmen's Compensation Board of Ontario.

Sten is a senior employee of FOLKSUM, the Swedish equivalent of the WCB. Although it has become almost commonplace for representatives from other countries the world over to study the WCB operations, it might justifiably be interpreted as a compliment that Sweden should do so; for it has the first, and, reputedly, the finest social security and welfare system in the world.

While all phases of the Board's work are of equal importance, the showpiece of the organization—the Hospital and Rehabilitation Centre at Downsview, near Malton

airport—is usually the subject of the most extensive study. Representatives from almost every state in the U.S.A., Southern Rhodesia, France, Haiti, and Yugoslavia, to name just a few, have come to study Ontario's methods of healing, rehabilitation and compensation.

This new Centre, little more than two years old, is comparable to any other institution of its kind in every respect except one. Most of the 4,000 patients which it treats, are post-operative cases where surgery has been performed in a general hospital. More than 800 people are accommodated at the Centre at one time, with a two-to-one ratio in favor of the patients. This means that rehabilitation must take place as quickly as possible, and to this end a tight schedule is maintained.

The WCB hospital has one basic principle of operation: before an injured worker can get back to his

old job or be trained for a new one, it is necessary to rehabilitate his mind by giving him back his self-confidence. Under the guidance of a trained and efficient staff, the Centre strives ceaselessly to achieve this parallel restoration of body and mind.

Through the miracle of modern therapy techniques, the Centre can claim a 99.9 per cent success record in this respect. Even a superficial study of its techniques, still in the miracle class to most laymen, explains the Board's proud record of healing, and why it has become an international model.

In the normal sequence, Physical Therapy is the first applied. This is basically the use of heat, light, water, electricity, massage and exercise to start the cure. The department is administered by a physiotherapist, and includes, as part of its equipment, a specially-designed therapeutic pool filled with water kept at 98° Fahrenheit.

Ontario Workmen's Compensation Board

has earned an international reputation

# A MODEL

COVERING 65 ACRES in all, the WCB's Hospital and Rehabilitation Centre at Downsview, Ont., is the realization of a planned program of expansion.



ELECTRICAL STIMULATION of weakened muscles is part of the Centre's physical therapy treatment.

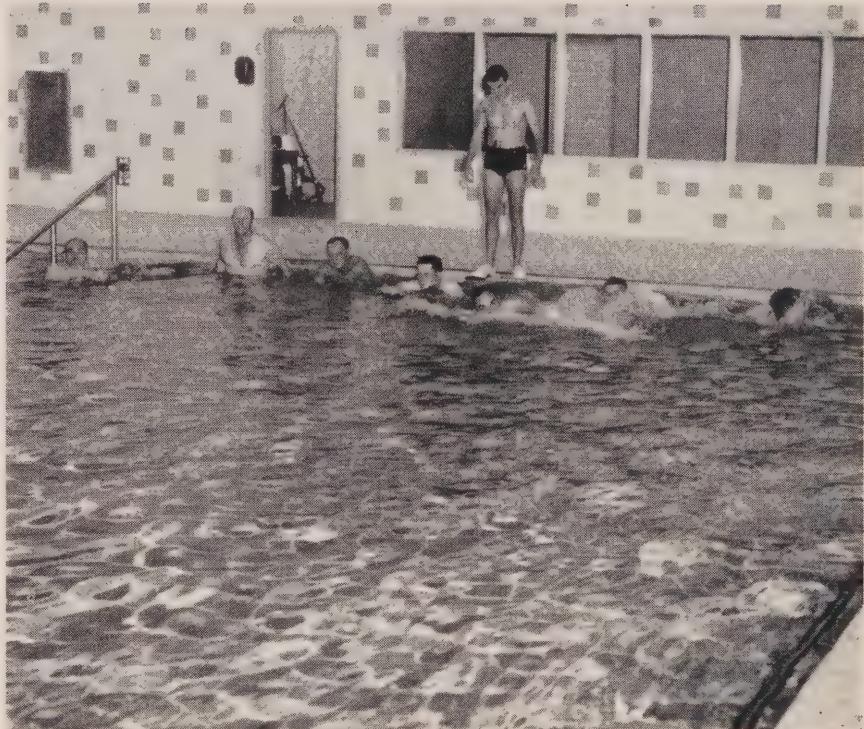
by Rory O'Donal

Treatment starts while some patients are still confined to bed, but once the crutches or wheelchair stage is reached they attend the regular clinics.

Usually the next step is Occupational Therapy. During this phase, patients receive treatment for injuries or diseases by engaging in productive activities, such as arts and crafts, weaving, carpentry, painting, brickwork, mechanical work, and even climbing. The aim of this type of therapy is to reproduce the physical components of the workman's job, while providing a distraction from the patient's physical and mental problems. Add to this the fact that it is painless, and you have one of the most important items in any rehabilitation program.

So important, in fact, are the techniques of the physical and occupational therapy departments that they form part of the training

(Continued on page 8)



ANOTHER IMPORTANT ASPECT of physical therapy takes place in the Centre's large therapeutic pool where the temperature of the water is kept at 98° Fahrenheit.



of undergraduate therapists at the University of Toronto. In addition, several medical students from McGill and Montreal Universities take part of their training at the Centre.

Third phase in the rehabilitation program is remedial gymnastics, which generally are carried out on a group basis. The target is to improve function and mobility, and pep up the general condition. Competition and group morale are two of the most important curative aspects stimulated by these activities. General classes are conducted in a large gymnasium, and specialized classes, such as those for amputees, are held in two other gyms.

Food services for patients and staff is handled by a large catering organization, and ultra modern equipment is the key to the success of this function. With the mini-

mum of staff, dietary meals are served in the minimum of time. A large electric dishwashing machine is one vital piece of equipment. For bed patients, mobile electric foodwagons make mealtime a pleasure; no more cold main courses, or puddled ice desserts, for each unit or wagon is divided into a warmer and refrigerator.

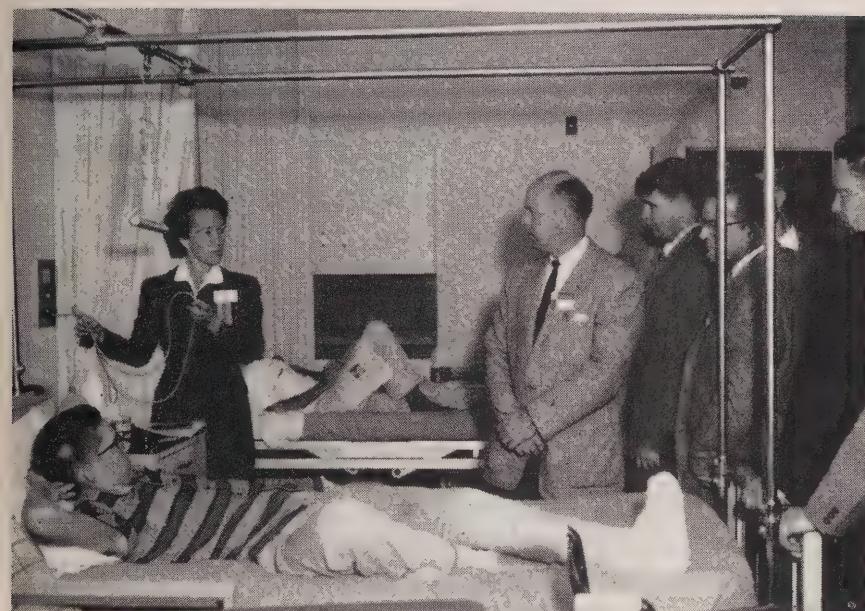
To study other aspects of the WCB, one must go to a seven-year-old, efficiently modern building, on Harbour Street along Toronto's waterfront. This is headquarters for the Board, and is a credit to the superb organization of the staff. Here are kept the records of every living person who has entered a claim for WCB benefits since its inception 45 years ago. Some of these early claimants are still receiving benefits.

Since New Year's Day back in

1915, the WCB has received and dealt with almost five million claims (it actually expects to reach this figure in April). Today they reach the Board offices at the staggering rate of 1,200 daily or 150 each hour. The total monies awarded by the Board as benefits, over the past 45 years, is expected to reach the astronomical high of \$600 million in April this year, too. These and other figures serve as a yardstick of Ontario's phenomenal growth in the first half of the 20th century.

Owing to the nature of workmen's compensation, it is necessary to record and retain all claims. Under any normal filing system, the WCB would need a pair of large warehouses to store these records, but in finding the answer to this problem it has probably gone one better than the super-efficient system used by the

OCCUPATIONAL THERAPY is designed, in many cases, to simulate the work done by the patient before he was injured.



CONDUCTING a group of visitors through the Centre, a WCB staff member demonstrates the communication system, which allows patients to talk directly to the staff, saving steps and time.



AN ELABORATE SYSTEM of electronic data processing helps the large WCB Head Office staff in Toronto to handle some 1,200 new accident claims which are received there every day.

R.C.M.P. While the Mounties have pictorial records of the outside of their "clients," the WCB has hundreds of thousands of inside pictures, in the form of X-rays on microfilm.

With the X-rays, all medical and pertinent data are put on microfilm, in rolls resembling large typewriter ribbon spools. Each spool holds between 300 and 400 individual records. This, in itself, would appear to make the WCB unique among similar organizations.

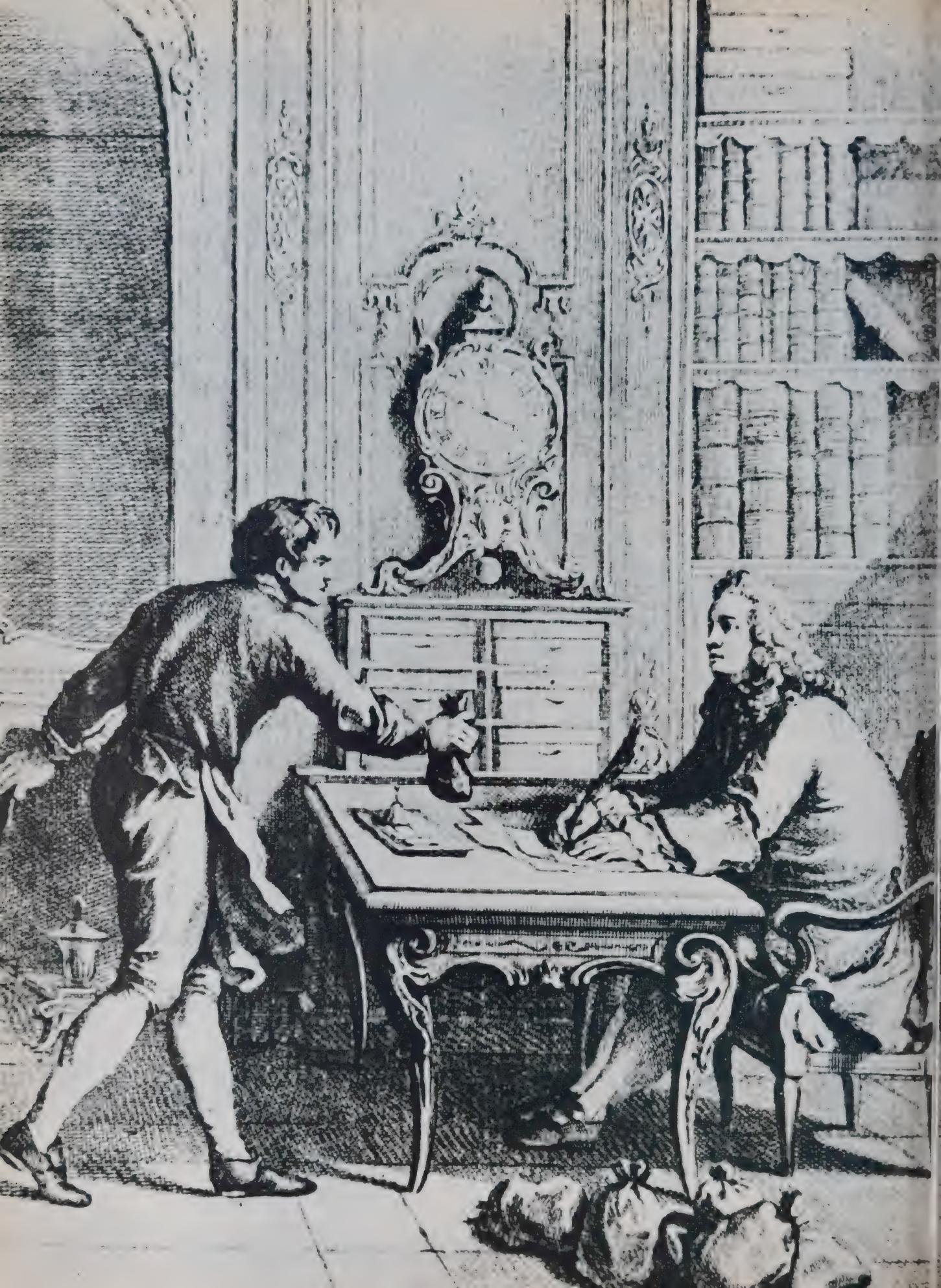
In 1958, an elaborate system of electronic equipment was installed at the Harbour St. offices to deal with repetitious, routine tasks, and to lighten the ever-increasing work load. In addition to this maze of highly intricate electronic data processing equipment, the offices are also equipped with numberless electric typewriters, adding machines, computers, and everything necessary to facilitate bulk mailing.

Administrative and judicial powers of the Compensation Act are vested in the Board, which is appointed by the Lieutenant Governor-in-Council. All amendments to the Act are the responsibility of the Ontario Legislature.

The Board, which consists of three members, is the hub around which the various departments revolve. However, all these departments are striving, with the Board, for the same end . . . realizing the purpose of the Ontario Compensation Act in rehabilitation of injured workmen. This end was reached last year to the extent of 228,539 satisfactorily settled claims, with the added astounding fact that more than 75 per cent of these claims were settled speedily and efficiently through the mails without the claimant seeing more of the WCB than its address on an envelope.

As Ontario grows, so does the WCB. With the present provincial population level over the six

(Continued on page 28)



by Don Carmichael

*Canadians are apprehensively preparing  
for the nation's annual headache season*

# TAXING TIMES

**T**HAT annual grumble of discontent from Canadian taxpayers, which rises to an ear-splitting roar as April 30 approaches, has started again.

And it's probable that it will be louder and longer than usual this year, because 1959 tax rates have gone up . . . the first peacetime jump since the middle 30's.

Canadians have been grudgingly paying income tax since 1917, but tax collection itself dates back to the beginning of civilized man.

The Sumerians, a Babylonian race dating back to 4000 B.C., had a proverb which warned:

"You may have a lord; you may have a king. But the man to fear is your tax collector."

First taxes were of kind, not money, and Egyptian Pharaohs demanded 20 per cent of all farm produce.

In ancient Greece they taxed doorways, and in Rome taxes "fell like hailstones," covering even togas and funerals.

Russia taxed beards and France fireplaces. An English revolution was ignited by the 1318 killing of a tax collector.

They even had their tax dodgers. In 1783 a farmer beat a tax on horses by riding his cow to market.

**HIS OLD PRINT** establishes that taxes have been with us for many years and the fact that our ancestors viewed them with the same distaste.

It's not quite so easy for Canadians to beat Finance Minister Donald Fleming's tax sleuths, but some might be tempted to try, especially this year. In addition to increased rates, payments under provincial government hospital insurance plans aren't exempt, and additional benefits are hardly worth the attention of most people.

Actually, Canadians aren't so badly off when a comparison is made with other countries of the world.

The British taxpayer coughs up at a considerably higher rate. While the Canadian family man is relieved of more of his cash than his U.S. counterpart, the bachelor here pays much less.

And Canadian fathers are somewhat compensated by a tax-free family allowance the U.S. family man doesn't get.

The increase for the taxpayer who pays on \$3,000 or less comes through a jump in the Old Age Security Tax (which helps pay old age pensions) of half a per cent. It means \$15 more for a \$3,000 man, and ranges down to an additional \$2 on a taxable income of \$500.

Taxpayers contributing on a taxable income of more than \$3,000 have an additional bite taken out of them. They get a similar increase plus one per cent additional on taxable income in

excess of \$3,000. This means \$45 more on a \$6,000 taxable income than in 1958.

The disallowance of payments under the new Ontario Hospital Insurance scheme will make it tough for some taxpayers to get their medical expenses above the three per cent of net income required for deduction claims.

Payments made under supplementary plans, like Blue Cross and P.S.I., are still deductible, but premiums, as before, are not.

The ban on Ontario Hospital Insurance payments means, says J. M. Jamieson, manager of Ontario Hydro plant accounting, that an employee with a \$100 hospital bill, which includes \$60 paid under the Ontario Hospital plan for public ward care, \$30 paid by Blue Cross for the extra cost of semi-private ward care, and \$10 paid by P.S.I. for medical expenses, can only claim \$40.

## Tax Officials Apprehensive

Mr. Jamieson thinks it "quite probable" that some who have been accustomed to include out-of-pocket and other medical expenses paid on their behalf will claim plan payments and have them "tossed back" at them.

Income tax officials, who are expecting a barrage of complaints and considerable confusion, explain that the payments are ex-

*(Continued on page 12)*

cluded because the Federal Government is already contributing to provincial hospital plans, but this isn't likely to soothe the feelings of taxpayers.

Nor are the additional benefits that can now be claimed under medical expenses. These are payments for a rocking bed for a polio victim, crutches, a ileostomy or colostomy pads and a truss for a hernia.

Also allowed under this section are payments to a "podiatrist," but this is nothing new, because, last year, bills for a "chiropodist" were allowed and the two specialists do the same thing; treat feet.

One new thing this year, which isn't likely to make the average taxpayer unhappy, is the fact that T1 Short Forms will be sent to Ottawa. Most people file this type of return—except those with an investment income of more than \$2,500, as well as farmers, fishermen or others in business for themselves, who compute their tax on the T1 General Form.

Ontario is the "guinea-pig" for the rest of Canada. By sending the T1 Short's to Ottawa for processing by electronic computers, instead of in the 11 district taxation offices, refunds are expected to be speeded up "by weeks."

And more than 50 per cent of Short returns are expected to be refunds.

The taxpayer doesn't even have to worry about the change, because the envelope supplied is self-addressed.

Assessments will still be made at district offices, and complaints or requests for information will be handled there as in the past.

The T1 General Forms, which require special attention, still go to the district offices.

Officials at the Toronto Tax Office estimate that eight to 10 per cent of returns involve "snags," a departmental term for forms improperly completed.

Most common is the failure to include sufficient information, like

the number of children, the spouse's name, or whether he or she is working, or T4 Forms showing income and deductions at source.

For example, say officials, a man may claim \$250 and \$500 deductions for two children, but give no names or ages, or tell what he did for six months of the year and not the other six.

Generally speaking, they say, "most taxpayers are honest, and the mistakes they make are not intentional."

#### Comments Won't Pass

The return filed by a Winnipeg business man for 1956 was intentional. An operator of an electronics business, this man filled in his return with comment instead of figures. Included were such gems as:

Taxable income: "Not known. Cannot afford expensive accounting."

Charitable donations: "Many."

Any loans made available to shareholders: "What with?"

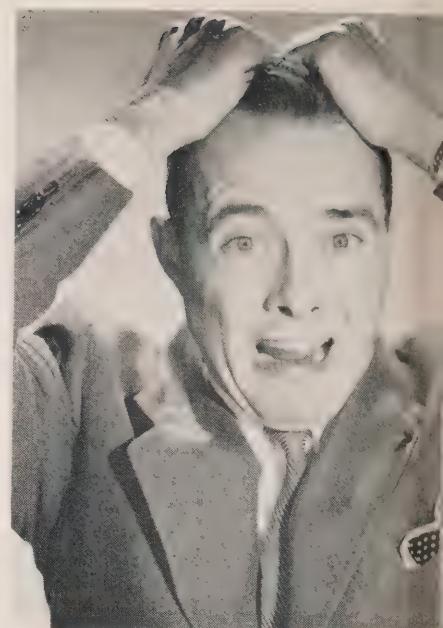
If answer to any of these questions is yes, full details should be given: "Quite."

He was charged with failing to file a return, but the case was dismissed in magistrate's court and the ruling upheld in Manitoba Court of Appeal. Though the return was outlandish, it was filed, the courts ruled.

Chances of someone repeating such a manoeuvre successfully are doubtful. As far as is known, the Winnipeg man is the first and only one to do so.

And the penalty which would be imposed on failure is not to be sneezed at. The Income Tax Act prescribes a fine of five per cent of the unpaid tax if it is less than \$10,000 and \$500 if it is \$10,000 or more.

On incomplete returns, the fine can be one per cent of the tax payable, but whether you are taxable or not, is a minimum of \$25 and ranging up to \$100, or an



MANY CANADIANS reach dramatic heights before the April deadline, but like their bewildered forebears (right), they "muddle through"—more or less.

amount Finance Minister Donald Fleming may fix.

For failing to supply any information that is required, you can get nicked at the rate of \$10 a day for default up to a staggering \$2,500.

About 50 per cent of the cases that go to the Income Tax Appeal Board are successful. But it's tough to cheat on your income tax return and get away with it.

Take the case of a man who claimed a deduction for a female companion he had been living with for a number of years.

He claimed he had adopted her and was entitled to a \$1,000 exemption for his "dependent." The appeal board rejected the claim.

Though income tax returns are secret, a Haitian was deported after investigation of his deduction form filled in on employment showed he was not married, though he claimed a wife and two children as dependents in his 1956 return.

A restaurant proprietor claimed he won \$23,000 playing fan-tan in

Toronto over a three-year period. The appeal board ruled he had to pay tax on it when he couldn't prove that he had won the money. Tax officials are still waiting for someone to successfully claim a deduction for a trip to Florida for his health. The only way it could be done, they say, is if the taxpayer went in an ambulance and stayed in a hospital.

### Bird Watchers Out

And bird watchers who claim deductions for donations to the Audubon Society of Canada are just wasting their time. Tax officials do not recognize it as a charit-

able organization within the meaning of the legislation.

Mr. Jamieson says that it is only where you get special situations with income other than salary that you run into complications.

Like investment income. A taxpayer can deduct any carrying costs related to it, such as safety deposit box rental, or interest on a bank loan acquired for investment purposes. He can write off accrued interest paid for on purchase of bonds or debentures between interest dates.

But if securities aren't paying dividends the carrying charges can't be set off against salary.

Generally speaking, he noted, capital gains are tax free as far as the salaried employee is concerned. But there have been a number of cases dealing with real estate and frequency of transactions.

"If you were buying and selling several houses a year you might be in trouble."

If you retired and sat in a broker's office all day buying and selling stocks, an assessor might say this is your business, but if you are merely making your fortune sitting behind your desk at work, it would be unusual for you to be taxed on your profits. The same thing applies to the weekend horse-racing enthusiast who is lucky enough to come out ahead.

### Exempt Fees

People who pay fees to professional organizations, like chartered accountants and engineers, can deduct them if it is a job requirement that they belong.

An Income Tax Handbook, such as put out by several chartered accountants, can give many helpful tips to the unwise taxpayer.

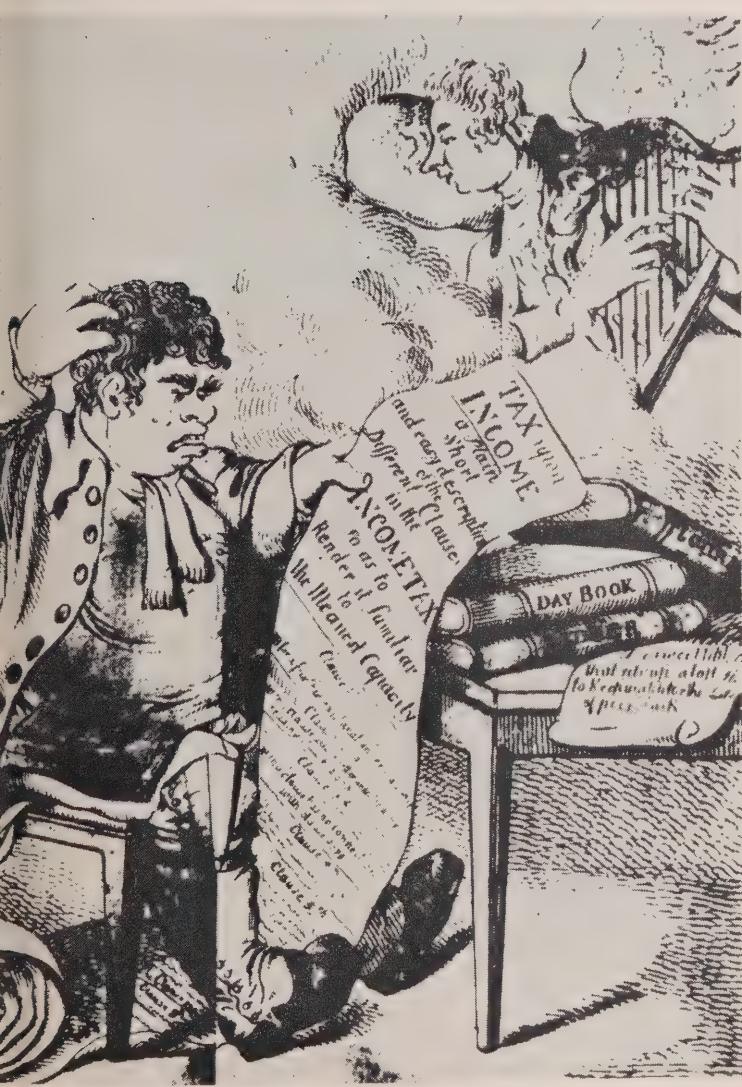
For example:

Gifts valued at up to \$25 which are made by an employer to an employee at Christmas time or on some other special occasion are not considered to be income by the Taxation Division. If it can be shown a gift was made for reasons of friendship or gratitude, it is probable the employee can avoid paying tax, but if the amount is sufficiently large it might be subject to gift tax.

In the event the wife's income exceeds the husband's, as might happen in the case of severe illness, there is no reason why the wife shouldn't claim the \$2,000 deduction less that amount of her husband's income over \$250. It might mean considerable saving.

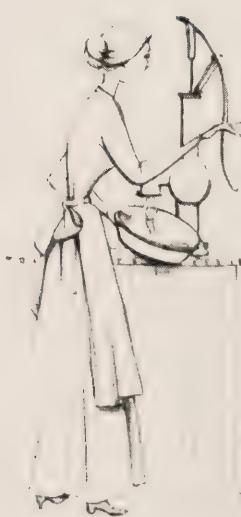
A single woman can make a salary substantially in excess of \$250 for the greater part of the year and be married later without

(Continued on page 28)



DECORATORS AND MANUFACTURERS ARE HELPING THE HOUSEWIFE TO "LIVE BETTER ELECTRICALLY"

# KITCHEN COMFORTS



It's not difficult to Live Better Electrically in these modern times.

Designers, engineers and electrical manufacturers are opening new doors to safe, convenient electrical living every year.

Take the kitchen, for example, a bright array of up-to-the-minute planning ideas are available just for the asking.

Just imagine having a kitchen not only equipped with an electric cooking top built into the counter, but a real charcoal grill for outdoor-type cooking as well.

Consider a home laundry so automatic that clothes can be bleached and tinted by simply setting a dial on the washer. Wash-and-wear garments can be "pressed" automatically, too, while being tumbled dry.

And while "imaginering," think how convenient it would be to have a kitchen table that folds away into a cabinet when not needed; an ironing board that unfolds from under the counter; a free-standing refrigerator that blends into the cabinetry or becomes a built-in as required; illuminated storage cabinets with glass fronts to show off best glassware; and an electric range oven that doesn't require scouring after broiling big, juicy, mouth-watering steaks.

All of these clever ideas and many more, sure to quicken the pulse of any homemaker, can be found in several new "idea" kitchens. Designers have planned them to serve as a guide for homemakers who are building a brand new house, or are improving their old one. Any of these ideas can

be transplanted in an electrified kitchen right now. Kitchen planners have used only equipment and materials on the market today.

The new cooking centres are especially interesting. One of the most exciting is the peninsular cooking counter, which features indoor-outdoor type cooking equipment. There is a built-in electric cooking top with four heating units, and alongside is a separate charcoal grill that will produce food with the outdoor flavor.

## Sparkling Mosaic

Overhead is a handsome plum-colored metal hood of contemporary modern design which presents an eye-catching appearance without sacrificing its basic function of cooking fume removal. The side of the counter is faced with tile in the exciting "roulette" pattern, providing a sparkling mosaic of color. And it stands up on legs 12 inches above the floor. Storage compartments below can be reached with minimum bending, and the homemaker will find the floor area below extremely easy to clean. A built-in wall oven, nearby, is equipped with an automatic rotisserie.

Another "idea" kitchen also has indoor and outdoor cooking facilities. In the kitchen, proper, is a compact 30-inch electric range, complete with rotisserie, automatic oven cooking controls, and automatic meat-tending device in the oven. Just outside the kitchen, in an enclosed patio area, is a small prefabricated fireplace that can be used for outdoor type cooking. The range, equipped with French doors that can be opened without stooping, fits snugly between countertops. Nearby is a floor-to-ceiling storage cabinet with an illuminated glass-fronted compartment

*(Continued on page 16)*



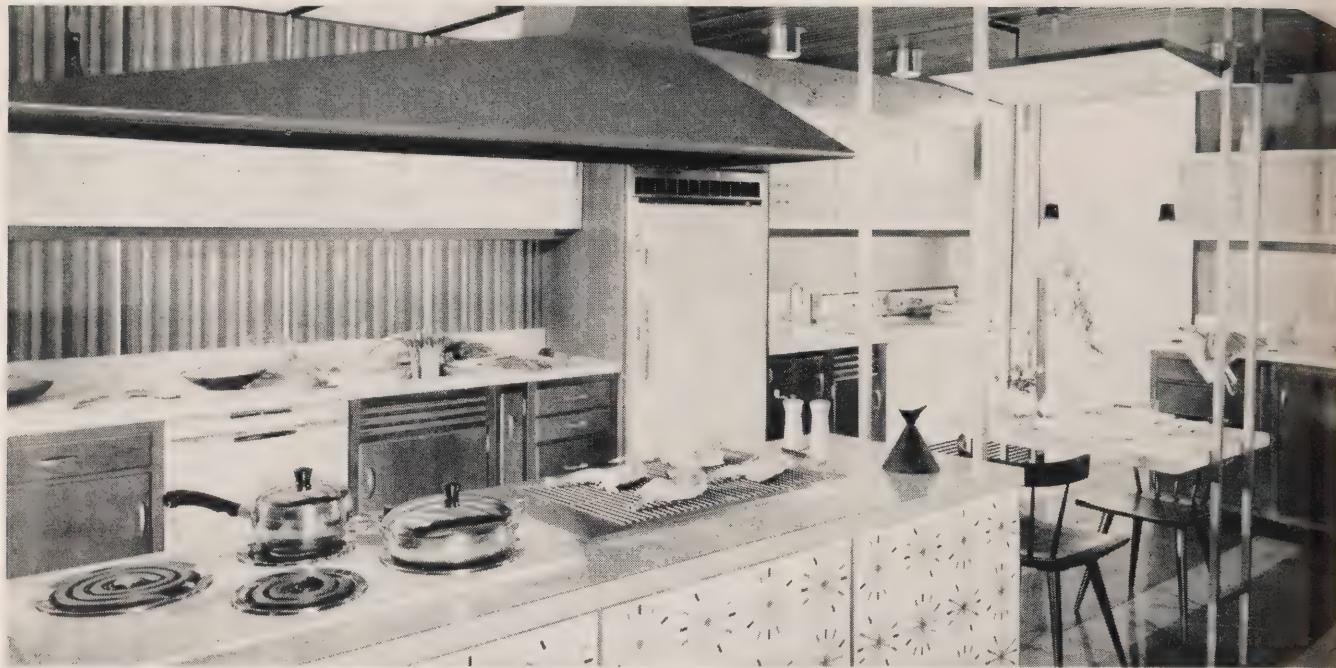
THIS attractive kitchen has an electric range with a new spatter-free broiler. Cabinets at the rear feature an undercounter dishwasher, sink and built-in food mixer. A large 14.4 cubic-foot refrigerator (right) and a food freezer (not shown) are built into the wall.



ALTHOUGH compactly designed, this kitchen incorporates a cooking centre, clean-up area, dining facilities and ample storage space. The refrigerator (right) serves both the kitchen and a patio (not shown). Appliances include an electric range, and undercounter dishwasher, all finished in charcoal grey.



COLORFUL and pleasing to the eye, this "idea" kitchen has a cooking centre, food preparation and clean-up area, snack table and modern home laundry. Peninsular counter (foreground) has a built-in electric cooking top and charcoal grill. The refrigerator is conveniently located to the food preparation area (left) and snack table (right). The laundry (right) has an automatic washer and dryer and folding ironing board.



for displaying best glassware with "picture window" effect. Also, there are special storage facilities for cooking pans, trays, utensils and small appliances.

Another cooking centre, which is a masterpiece of homemaking convenience, has a two-oven electric range with an amazing new "radian-t-wall", "spatter-free" broiler grill that virtually eliminates oven cleaning after broiling. The homemaker has only to set a new broiler control to "rare", "medium" or "well done" and everything else is automatic. The high walls and special water-cooled bottom of the broiler grill keep hot melting fat inside and in fluid condition. Grease does not burn and cake on the pan, so there's no scouring. The pan can be swished clean at the sink.

The range is flanked by countertops of stainless steel, which permit removal of hot utensils directly to the work surface. There is a variety of convenient storage for

pots and pans above and below. Wall panels of ceramic tile behind the range and sink, make cleaning a breeze.

#### Setting the Trend

The trend-setting sheer look styling, with its clean, uncluttered lines, has been put to effective use in the installation of refrigerators in the three kitchens. All units are free-standing models, but, thanks to the new design, kitchen planners were able to build them into the cabinet arrangement.

Several "idea" kitchens feature extra-large refrigerated storage facilities, adequate for even the biggest family. In one plan a new 14.4-cubic-foot refrigerator-freezer combination and matching 14.2-cubic-foot upright food freezer are installed side by side. Both units fit flush with cabinets. There are large louvered storage compartments above. Another plan incorporates a 12.2-cubic-foot refrigerator-freezer which is built into the cabinet arrangement.

If desired, a 12.5-cubic-foot refrigerator with roomy bottom freezer can fit snugly alongside a floor-to-ceiling broom closet with louvered doors. The refrigerator is conveniently located so that it serves kitchen, dining and patio areas. Illuminated glass shelves, fitted into a nook above the refrigerator, show off prize dishes and pottery.

Several modern kitchens are designed to include laundry sections which are both convenient and attractive. One plan calls for installation of a completely self-contained automatic washer, electric dryer, sink and storage cabinets.

The washer is completely automatic, even when it comes to tinting and bleaching. The dryer has the new "wrinkles-away" feature, which automatically "presses" wash-and-wear garments while they are being tumble dried, eliminating many tiring hours at the ironing board. And if a touchup is



STYLISH charcoal grey refrigerator-freezer serves both the food-preparation and cooking area inside and the outdoor cooking centre on the patio (see lower photo on page 15). Glass shelf above the refrigerator is illuminated to show off the glassware and dishes.



AUTOMATIC home laundry features an electric washer that also bleaches and tints. The dryer has a new "wrinkles-away" attachment that presses wash-and-wear garments. The counter for serving breakfast, lunches and snacks has an illuminated cabinet above.

required with the hand iron, there is a hinged ironing board that unfolds from a nearby base cabinet. A big clothes hamper rolls out from undercounter near the washer. Another plan suggests that the same type washer and dryer be installed in an alcove, which can be closed off by a folding door.

Dining facilities are provided in most of the new kitchens, but vary in design. One kitchen has a floor-to-ceiling storage cabinet with a hinged table that unfolds when needed. The cabinet also holds dishes and other items.

Another plan features a small snack table suspended on modernistic aluminum struts extending from floor to ceiling. An attractive decorative canopy is overhead.

**"Brunch" Bar**  
A "brunch" bar in a kitchen,

featuring in-line seating, is another modern favorite. A plastic wall panel with falling-leaf design adds to the attractive setting. On the wall above, is a handsome cupboard with sliding glass doors and illuminated shelves for display of fine china.

Undercounter dishwashers, food waste disposers, and built-in food mixers also are featured in the "idea" kitchens. And there is a wide variety of special storage facilities, including special compartments for dishes, trays, silverware, condiments, cups, waste paper and other kitchen items.

The kitchens reflect profuse, but tasteful, use of color. Open type kitchens present a colorful, attractive facade to the living area. Compatible with the new types of turquoise appliances are hardwood

cabinets with durable, catalytic finishes. Base units are walnut wood grain, doors on wall cabinets are cloud grey and light blue. Accent colors are cerulean blue, dark blue and plum. Countertops are grey Irish linen and cerulean blue. The floor covering is dark blue and light green, setting off the room in dramatic fashion.

One color scheme captures the fanciful spirit of the Far East with its off-whites, red, deep green, black, gold and natural light wood tones. The ceiling is made up of bamboo strips and panels of off-white. Appliances are finished in sophisticated grey.

A light, airy decor is preferable in some cases. White oak, sky blue, blue mist, hyacinth, siamese pink, gunmetal and antique white accentuate Mayfair pink appliances. By way of contrast, the automatic washer and dryer in the laundry area are finished in new sunny yellow. The floor covering is blue-grey and black tile.



**Unique kitchen utensils of United  
Empire Loyalist era  
find a haven in Ontario's  
Upper Canada Village**

MUSEUM CURATOR CHARLES ROOKE (right) helps a young visitor to mount the bicycle donated by Fred Weagant, South Mountain, Ont. Gay blades of the 1880 period travelled the countryside on these "perilous pedacycles."



# GRANDMA USE!

IT took ingenuity and plenty of determination, mixed with a generous dash of imagination, to be a Canadian pioneer—a successful one that is!

Our United Empire Loyalist ancestors who lived along the shores of the St. Lawrence River in the War of 1812-14 days couldn't step out to the nearest shopping centre to pick up a frozen TV dinner; there were no hardware stores or electrical appliance dealers to supply them with the hundred and one labor-saving gadgets that we consider to be the essentials of modern living; and when they wanted furniture for their homes, they fashioned it with crude and often clumsy tools of their own making—in most cases.

If grandmother could compare the gleaming kitchens and their

glistening equipment shown on the preceding pages, with the household "gods" of her heyday, she'd come to the conclusion that life for the modern homemaker is just a bowl of fresh frozen, ready-to-serve cherries.

Any housewife who gets dissatisfied with her lot in these comfortable times couldn't do better than pay a visit to some of Ontario's museums which display household articles of a century ago.

### Colonial Showcase

Such a museum can be found at Morrisburg, where the Ontario-St. Lawrence Development Commission, under the chairmanship of George H. Challies, a former Ontario Hydro Vice-Chairman, is creating a showcase of Canada's British colonial era.

It all began when Ontario Hydro launched the task of moving 6,500 people from eight St. Lawrence Valley communities which lay in the path of the now virtually completed St. Lawrence Power Project. Some 525 families had their homes moved into the spanking new communities of Long Sault, Ingleside, new Iroquois or the relocated portion of Morrisburg.

But it was a time for house-cleaning, and the Development Commission made an appeal, chiefly through women's clubs, for heirlooms of bygone days. They were almost overwhelmed by the response. It brought a flood of kitchen utensils, such as antique hand irons, pots, pans and dishes, as well as stoves, furniture, family records, paintings, farm imple-



IN THE HEYDAY of the candle, housewives had to pour their own, a dozen at a time. This mould came from the Kingston home of Mrs. Donald Moffat.

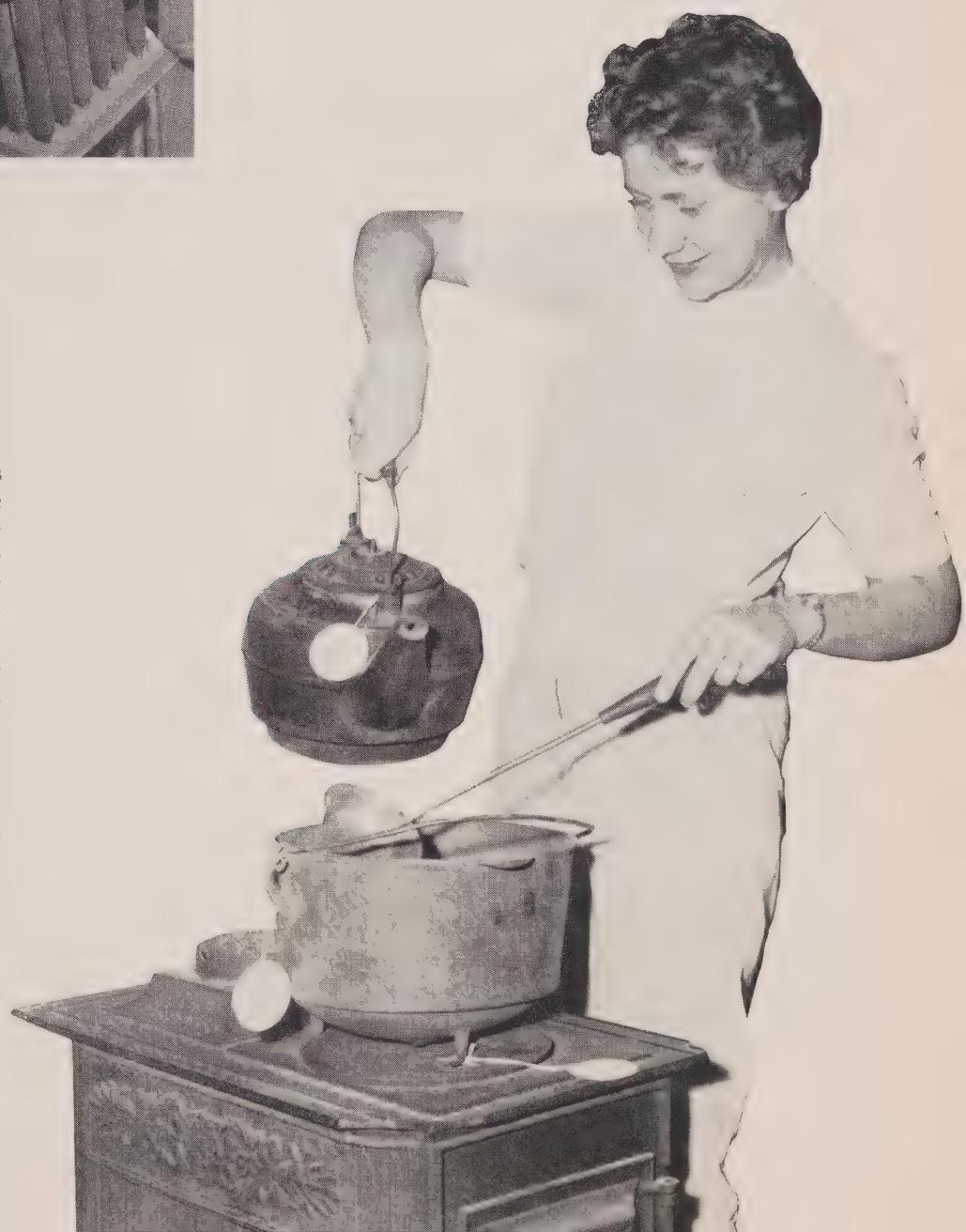
# EM

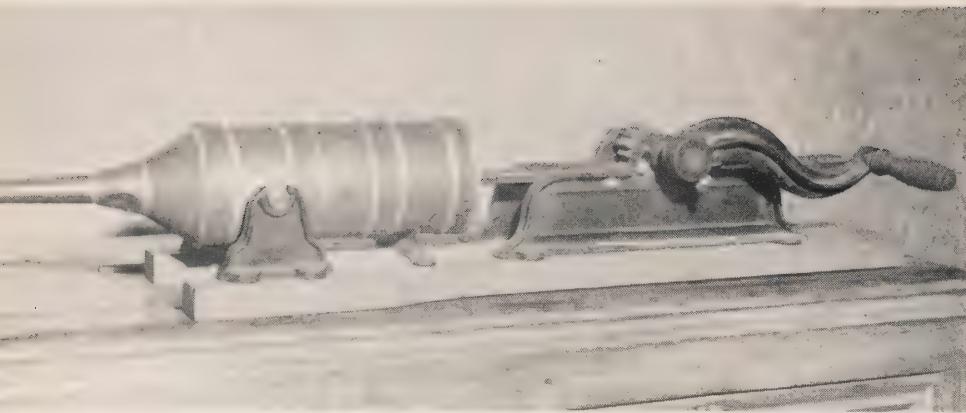
ments and countless other items.

Altogether, some 3,000 articles were donated by residents of the district and others. Miss Lottie Robertson, an old-time Mille Roches resident, gave much of her furniture and utensils from the family home. Another descendant of a well-known Morrisburg family, Miss Isobel Farlinger, donated books, furniture and pictures from her 22-room mansion before she moved into a two-bedroom bungalow.

One of the most important donations  
(Continued on page 20)

TWO IMPORTANT kitchen items for the early Canadian housewife were the iron pot (circa 1850) and the iron kettle of 50 years earlier.





MANY MUSEUM VISITORS are mystified by this odd-looking kitchen gadget. It's a sausage grinder used about 1870 and was donated by Mr. and Mrs. Arthur Nash, Morrisburg.

tions to the Museum were several pieces of furniture donated by Harvey Crysler Hensley of Freeport, N.Y., a great grandson of Captain John Pliny Crysler. Captain Crysler was a son of Colonel John Crysler, who took part in the Battle of Crysler's Farm during the War of 1812-14. Captain Crysler commanded a company of Militia at the Battle of the Windmill, near Prescott, during the Rebellion of 1837-8. The furniture donated by Mr. Hensley, therefore, has particular significance to both the history and culture of Upper Canada.

#### Upper Canada Village

The museum can only display



A YOUNG MARRIED COUPLE ponder the difficulties grandmother had in preparing the morning coffee. This clock-operated roaster (circa 1860-70) was donated to the museum by Miss Lottie Robertson, of Cornwall.

MUSEUM ATTENDANT, Mrs. S. D. Irvine, agrees that the housewife had no cinch pushing this heavy charcoal iron around 1845. Mrs. Ernest Deeks, Morrisburg, was the donor.

a small portion of the 3,000 donations. But these have been held in storage while the work of creating Upper Canada Village in the 2,000-acre Crysler Memorial Park, east of Morrisburg, went ahead. The Village, which preserves the customs and architectural styles of 1800-1860, consists of some 30 historic buildings, including the venerable residence of the Crysler family mentioned previously, many of them moved from the area affected by the St. Lawrence Power Project. These buildings are being furnished with authentic articles from the Museum and its adjacent storehouse for surplus articles, and by 1961 this monument to Can-

ada's United Empire Loyalist settlers will open its doors to the public.

Canadians' interest in their heritage is indicated by the thousands who have visited the Morrisburg Museum since it opened—12,000 in 1959 alone.

Under the guiding hand of Curator Charles Rooke, a retired Brockville insurance agent, the Museum displays have been arranged to include a cross-section of household articles, furniture, guns, swords, uniforms and pictures that vividly depict the craftsmanship of the early St. Lawrence settlers.

Here the visitor will find such

unusual items as a sausage-maker, a coffee roaster and charcoal irons. Many of the kitchen articles are of heavy iron, which has almost been completely replaced by lighter aluminum, copper, brass and stainless steel.

Yet many of these century-old utensils resemble their modern counterparts so closely in form that they can be instantly identified, as the photos on this page show.

But today's household appliances differ from their predecessors in one basic way: most of them are electric. And even grandmother would not part with them.

—by B. L. Graham.



# ENGINEERS AND ART



MEMBERS of the Professional Engineers' Wives' Association also exhibited for the first time this year. Here Mr. and Mrs. Gordon B. Tebo (Mr. Tebo held several important Ontario Hydro posts, including that of Director of Research, before assuming his present position as Manager, CSA Testing Laboratories) examine Mrs. Tebo's entry in the sculpture class.

NOTHING could be farther from the truth than the popular belief that professional engineers are only interested in matters relating to science and mathematics, according to Robert C. Poulter, P.Eng., of Toronto.

Mr. Poulter was the chairman of the art committee of the Association of Professional Engineers of Ontario whose fifth art exhibition by its members was held recently in the Ontario Room of the Royal York Hotel.

Strangely enough, few of the entries had even a faint connection with engineering work.

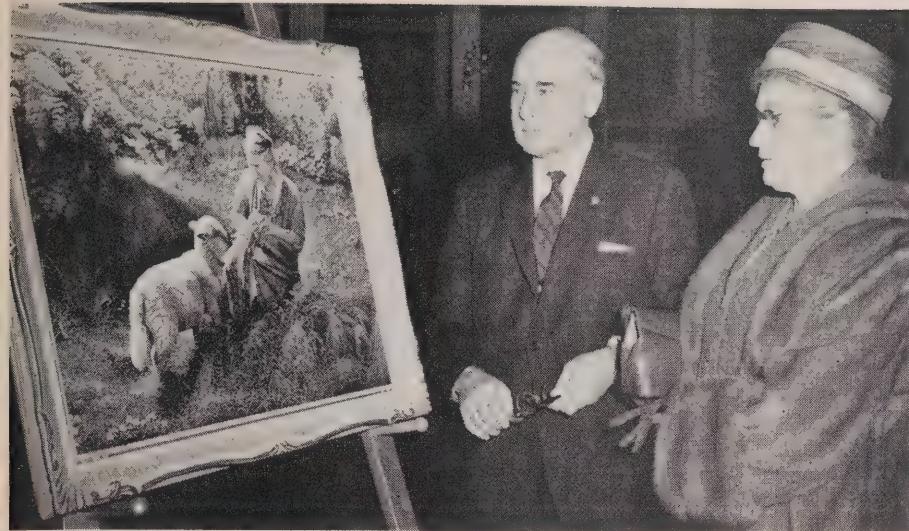
More than 125 entries by some 35 professional engineers were displayed by the Association's members who have adopted painting as a hobby. A new feature of this year's exhibition was a special section devoted to paintings, sculpture and ceramic craft by members of the Professional Engineers' Wives' Associations of Toronto and the Lakehead.

One painting was sent by a Canadian engineer from as far away as Maidstone, Kent, England. Other exhibitors were from Toronto and district; Sault Ste. Marie, Windsor, Ottawa, Sarnia, Hamilton, Cornwall, Port Arthur, London, Grimsby and Fonthill.

Ontario Hydro was well-represented at the exhibition with five paintings entered by Director of Engineering, as well as four others by Louis Mathe, Generation Design Department, who also won praise for three fine examples of sculpture.

UNIQUE CUTAWAY IMPRESSION of the Robt. H. Saunders - St. Lawrence Generating Station, entered by Louis Mathe, of Hydro's Generation Design staff, receives the admiring attention of R. C. Poulter, Toronto, chairman of the exhibit (left), and Dr. W. P. Dobson, Hydro's first Director of Research.





ONE OF FIVE paintings entered by H. H. Leeming, Hydro's Director of Engineering, shown here with Mrs. Leeming at the art exhibition opening, was entitled "Mary and Her Lamb."



FORMERLY Hydro's Assistant Director of Frequency Standardization, A. LeB. Ross, Port Credit (left); his brother, H. U. Ross, Toronto, and cousin, E. C. Little, Fonthill, all of whom entered paintings, are shown in front of Mr. Ross' portrayal of a "Florida Storm."



MR. MATHE had the distinction of being the only engineer to show both paintings and sculpture. He is shown beside two of his pieces of sculpture, which were modestly titled "Apes" and "Antelope."



GANANOQUE'S NEW, 2,300-KILOWATT PLANT CAN OPERATE ON EITHER NATURAL GAS OR DIESEL FUEL.

## THIRD CLAIM TO FAME

**Gananoque utility inaugurates Eastern Canada's first gas-operated electric generating plant**

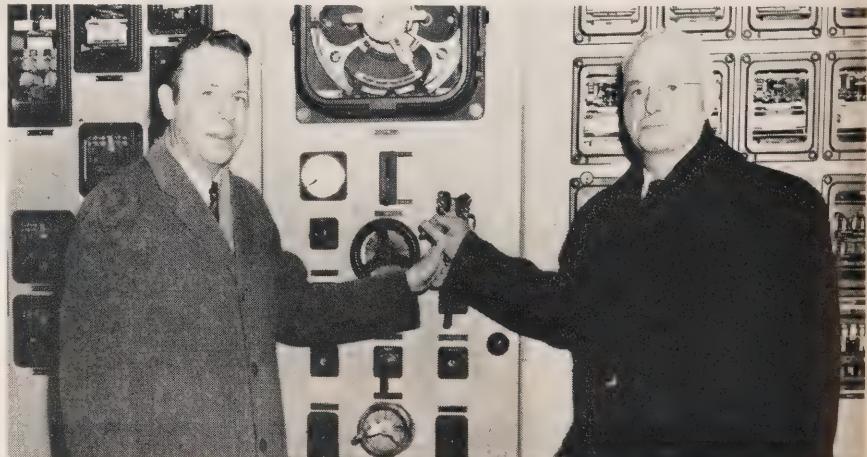
CLAIMING fame as the Gateway to the Thousand Islands and as the home of Canada's shortest railway, the St. Lawrence River town of Gananoque is now boasting of a third distinction—the first electric generating station fueled by natural gas in Eastern Canada.

Energy Resources Minister, Hon. Robert W. Macaulay, who officially opened the dual fuel plant recently, paid tribute to the Gananoque Electric Light and Water Supply Company and General Manager John M. Campbell for a "bold and imaginative step."

The first installation of its kind in Eastern Canada, the station can generate electricity, using either natural gas, diesel oil or combustion of both as a fuel. Even when operating on natural gas, however, the engines use a 6 3/4 per cent diesel oil mixture.

Mr. Campbell explained that his company had been studying a dual fuel station since 1954 to supplement the output of the system's five hydro-electric stations on the Rideau and Gananoque rivers.

The new station's initial capacity is 2,300 kilowatts with a na-



ONTARIO'S Energy Resources Minister, Hon. Robert Macaulay and John M. Campbell, general manager of Gananoque Electric Light and Water Supply Co. start up the plant's twin engines.

tural gas consumption of approximately 500,000 cubic feet a day. The plant and facilities have been designed so that additional units may be added without affecting existing power generation facilities.

"The plant is scheduled initially to operate continuously 180 days a year from May until October, when the public demand for gas is at a minimum. During the balance of the year, it will be run

on diesel fuel as needed," Mr. Campbell said.

More than 70 guests attending the official opening heard Mr. Macaulay, Second Vice-Chairman of Ontario Hydro.

"Although we in Ontario have not yet found it economical to generate electricity in large quantities with natural gas, that day may well come. In fact we have made provision for using gas as  
(Continued on page 28)

## MEETING THE TEST

(Continued from page 5)

project at Coldwater with great interest (see *Ontario Hydro News*—Sept., 1959). The Research Division is working closely with the Engineering and Planning Divisions on tests, using specially designed equipment, to determine the most economical conductor arrangement for transmitting power over the long distances from northern sources to southern load centres.

• Studies are proceeding on the development, evaluation and improvement of techniques for measuring air pollution. As part of an extensive long-term investigation, continuous measurements have begun of air pollution in the vicinity of the Richard L. Hearn G.S. and the site of Lakeview G.S. to determine existing conditions and trends. The primary consideration is that air pollution will not be increased significantly by the operation of additional coal-fired plants in the Toronto area.

• Thanks to the Research Division, operators at Sir Adam Beck-Niagara G.S. No. 2 have a high-speed assistant to help control operation of the huge station—the operations recorder, which can keep track of the functioning of some 500 pieces of equipment and record them on a printer at a rate of 15 operations per second. In many instances it supplies vital information that would otherwise be unavailable. Possibilities exist for extending the recorder's scope, and the Operations Division has recommended that it be extended to include the adjacent Sir Adam Beck-Niagara G.S. No. 1 as well.

• Another involved system is under study for the Commission's System Control Centre on Toronto's northwestern outskirts, which co-ordinates operation of the 230,000-volt transmission system supplying the bulk of power used in Ontario (see *Ontario Hydro News*—Oct., 1959). Known



## SWEDEN'S LARGEST

**S**WEDEN's largest hydro-power station, the State Power Board's 375,000-kilowatt Stornorrfors plant on the Ume River, was officially opened recently. Like most of its predecessors completed in the current decade, including the Harspranget installation above the Arctic Circle and the Kilforsen plant, Stornorrfors represents an interesting example of design and engineering, and is virtually 100 per cent an all-Swedish job.

The Stornorrfors station is built underground off the river bed proper. The water is conducted to the station through a 1½-mile canal, precipitated through indi-

vidual penstocks to the three turbines and reconveyed to the river through a 2½-mile tailrace tunnel.

The building of the new power plant has resulted in a number of records and world's "firsts." The three Francis-type turbines, designed for a maximum rating of 147,200 kw, were, at the time of construction, the largest of their kind in the world. So were the three Asea generators, with an output of 150,000 kva each. Each unit has a weight of 974 tons. The tailrace tunnel, with a sectional area of 4,300 sq. ft., is said to be the biggest ever driven for a hydroelectric project. •

---

as a remote annunciator, it would telemeter information on the operating state of every breaker in this high-tension system. The state of each breaker would be shown on an illuminated panel in the control centre. A prototype has already been tested under operating conditions.

Two important phases of the division's operation are its contributions to Hydro's stores standardization program, and the provision of continuous testing services required in the day-to-day operation of the Commission's System.

The division includes an Operations Research Group, which analyzes complex operational prob-

lems in order to provide data for important managerial decisions. The Group also studies major Commission operations with a view to developing scientific procedures of optimum effectiveness. Completed undertakings include vehicle replacement policy; use of Niagara flow within treaty limits for power generation; inventory management; power transformer reserves, and economic operation of the Sir Adam Beck-Niagara generating and pumped storage complex.

These are not ivory tower researchers. They deal in developments that mean progress, efficiency, safety and economy. •



# LET'S CHAT

with Lois Hurst of Ontario Hydro Homemakers' Service



*"No matter where I serve my guests,  
It seems they like my kitchen best."*

HAVE you noticed how often company naturally gravitates to your kitchen? Household help is almost a thing of the past, and so even the best organized hostess finds herself in the kitchen just before

schemes are achieved with the endless variety of paints and floor coverings. Copper utensils lend a warm glow.

Recently a questionnaire about the future of kitchens started me thinking about what is happening to this all-important room. Less and less time is spent in actual food preparation, about two hours

section of a large living area is functional and attractive. An electronic range and conventional electric oven are built in, side by side. A plug-in centre for portable appliance cookery is visible on the back counter.

A two-way island refrigerator is shown in the foreground. A coil-less, condenser-less system of cooling is possible in the foreseeable future. Drawers and cupboards may be chilled individually. The dining room may have its cold cupboard, and the bathroom wall cabinet could be refrigerated for medical supplies. Indeed, even the baby's bottle may be kept chilled in a special flask with a timer, which can reverse the cooling process and warm the milk to just the right temperature.

Although today's housewife has many work-saving appliances, she finds herself using more and more prepared and packaged foods, not only for their convenience, but also for the infinite variety of new foods and interesting combinations they provide. She keeps an emergency shelf for preparing a quick meal when guests drop in unexpectedly.

a day now, compared with five hours a day fifty years ago. However, the kitchen is becoming more than a food preparation centre.

Many families eat all their meals here. It may have a laundry centre, a sewing centre, a planning centre with desk that doubles for homework, and even a playroom for junior.

The total electric home by Westinghouse pictured here, depicts a food preparation centre of the not-too-distant future. This compact



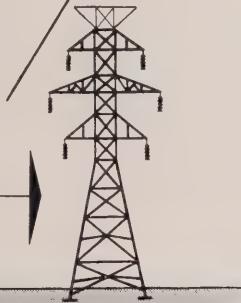
refreshment time. Some guests follow to give a helping hand. Often an informal party is soon in full swing there.

The kitchen has assumed a warmer, friendlier atmosphere, and it is fast becoming a gathering place for everyone. This may account for the trend toward the "fine furniture look" in appliances and the preference for cosy, natural wood finish for cupboards. Cheery, washable wallpaper is reappearing. Fascinating color

We have borrowed an idea from the Chinese for this unusual casserole supper dish. Almost all the ingredients can be kept on your emergency shelf. It is oven-ready in five minutes. It is handy to serve during meatless Lenten days, and tempting at any time of the year. Served with salad greens,

*(Continued on page 27)*

# ALONG HYDRO LINES



## Wallaceburg honors retiring stockkeeper

A noted district angler, James Bachus, completed 37 years' service as stockkeeper with Wallaceburg Hydro-Electric Commission on February 1 this year. A native of Wallaceburg, Mr. Bachus joined the local utility staff in 1923, and served continuously until his recent retirement. Staff colleagues and commissioners presented him with an easy chair and electric coffee-maker at a recent complimentary dinner marking his retirement.

## LET'S CHAT

(Continued from page 26)

brown'n serve rolls, ice cream with frosted fruit, and lots of steaming coffee, who could ask for anything more?

### Tuna-Cashew Casserole

1 can (7½ oz.) tuna  
1 can (10 oz.) condensed mushroom soup  
½ cup water  
1 can (4 oz.) chow mein noodles  
4 oz. salted cashew nuts



## CHAMPION COUNTRY CORRESPONDENT

AN attractive 25-year-old mother of four children, Mrs. Glen Archibald, has been voted the champion country correspondent of 1959 by the Ontario Weekly Newspapers Association. At the association's recent convention in Hamilton, Ont., she was presented with Ontario Hydro's Award of Merit by James A. Blay, director of Information, for her reports from "The Lighthouse" resort area at the mouth of the Thames River and Lake St. Clair in *The Tilbury Times*.

Married to a commercial fisherman, who operates his own business, Mrs. Archibald has gathered quite a readership among *The Tilbury Times'* subscribers with

her regular column: "The Lighthouse News," in which she gives lively descriptions of fishing and lake conditions, humorous incidents, fishing contests, and news of the summer residents. Modestly, Mrs. Archibald points out that she tries to present her information "as if I were writing a letter to a close friend who moved away."

In the accompanying photograph, Mrs. Archibald receives the plaque (which cited the "quality and accuracy of work, and the informative portrayal of life in the rural areas of the Province") from Mr. Blay as H. D. McConnell, publisher and editor of *The Tilbury Times* (centre), proudly looks on.

1 cup celery, finely diced  
1 teaspoon instant onion flakes  
pepper

Cut the tuna into large chunks. In a 1½ quart casserole combine all the ingredients except ½ cup of the chow mein noodles. Taste; add salt if necessary. Sprinkle the remaining noodles on top. Bake uncovered, at 325°, for 40 minutes. Makes 5 generous servings. •

### Blenheim staff sets new safety record

One of the best safety records of any Ontario Hydro staff has been chalked up by Blenheim Area employees.

Safety-minded employees worked more than 3,000 consecutive days without a loss-time accident, Area Manager W. B. Ford reported in January.

## TAXING TIMES

*(Continued from page 13)*

having her husband's \$2,000 deduction reduced in any way as long as her income doesn't exceed \$250 while married.

If the wife's income slightly exceeds the \$1,250 limit set for her husband claiming an exemption for supporting a wife, or a dependent's income is slightly over the \$950 limit, the excess can be paid as extra tax by the husband or father, and the balance of his taxes computed as though the income of the dependents did not exceed the above limits.

Income received by a daughter as a nurse-in-training does not disqualify her as a \$500 deduction even though she makes more than \$950.

A husband is allowed a once-in-a-lifetime gift of real property to his wife of up to \$10,000, and it shouldn't be wasted on a lesser amount. Any number of gifts can be made during the year which do not exceed \$1,000 to any one individual.

### Tax-free Pensions

Pensions received out of war service from a country that was an ally of Great Britain, or in respect of death or injury in the Halifax explosion in 1917, don't have to be included in income.

There is no limit on the number of children for which a taxpayer can claim a \$250 or \$500 deduction. "If you've got a roomful you can claim for every one of them," say tax officials.

But ignorance of the fact that a "little deduction" born even on the last day of taxation year can be registered for family allowance is no excuse for claiming \$500 instead of \$250, they say.

Adopted and illegitimate children are deductible, but common-law wives are not, and the department has to eliminate many such claims.

Officials advise the taxpayer to read the form and the guide at-

tached first before they fill out their returns. They suggest that "doodling" be done on the duplicate copy of the return that is supplied.

District offices will be glad to supply the taxpayer with any information they can, they stress, but they can't recommend an accountant or tell a person "what blue chip stocks to buy."

And please, they counsel, claim any deductions that are allowable. "We don't want your money."

Income tax was first imposed in Canada in 1917 under the Income War Tax Act because the financial strain of World War I was too much for revenues produced primarily by customs duties and excise taxes, and they had to be supplemented.

So, after 43 years, it looks like it is here to stay. All the taxpayer can do is grin and bear it, and perhaps enjoy a little secret satisfaction when he makes a little money in a poker game and doesn't have to declare it. •

## THIRD CLAIM TO FAME

*(Continued from page 24)*

fuel in our new generating station at the Lakehead (Thunder Bay G.S.). The Lakeview plant (west of Toronto) alone, if operated by natural gas, would require 190 billion cubic feet a year.

"While natural gas is used in small generating stations in the West, this is the first and only such installation in Eastern Canada. I will not hesitate in saying that the operation of this plant will be watched closely by other communities and other provinces in the East," Mr. Macaulay said.

Noting that the Gananoque Electric Light Company was established in 1889, he said "there is always room in this province and in the economy of our country for private enterprise to compete in the field of service."

B. H. Mears, sales director of Mirrlees, Bickerton & Day, Stock-

port, England, the firm that built the 15-foot-high, 20-foot-long dual fuel engines for the plant, flew from England for the opening. He described the engines as the best available and "a milestone" in the history of his company.

In addition to Mr. Macaulay and Mr. Mears, head table guests were: E. G. Gurnett, manager of Ontario Hydro's East Central Region; Joseph C. McCarthy, Consumers' Gas Limited; James Auld, M.P.P. for Leeds and vice-chairman of the Ontario-St. Lawrence Development Commission; Mayor Ian Beresford, Gananoque; Hayden Stanton, M.P., Leeds; Mortimer Cross, reeve of the Front of Leeds and Lansdowne; Ray Pfaff, A.M.E.U. president; R. W. Sutton, chairman of Kingston P.U.C., and Ron Mathieson, secretary of the A.M.E.U. Mr. Campbell acted as luncheon chairman.

Guests were transported to the new station north of town in two special coaches of the Thousand Island Railway, which connects Gananoque with the Canadian National Railways' main line over 4.51 miles of track. A source of pride to residents, the railway was described by the local agent as "not as long as the C.N.R., but just as wide."

During the train ride, a return ticket to the cemetery—one of the line's scheduled stops—was given to each passenger as a humorous highlight of the trip. •

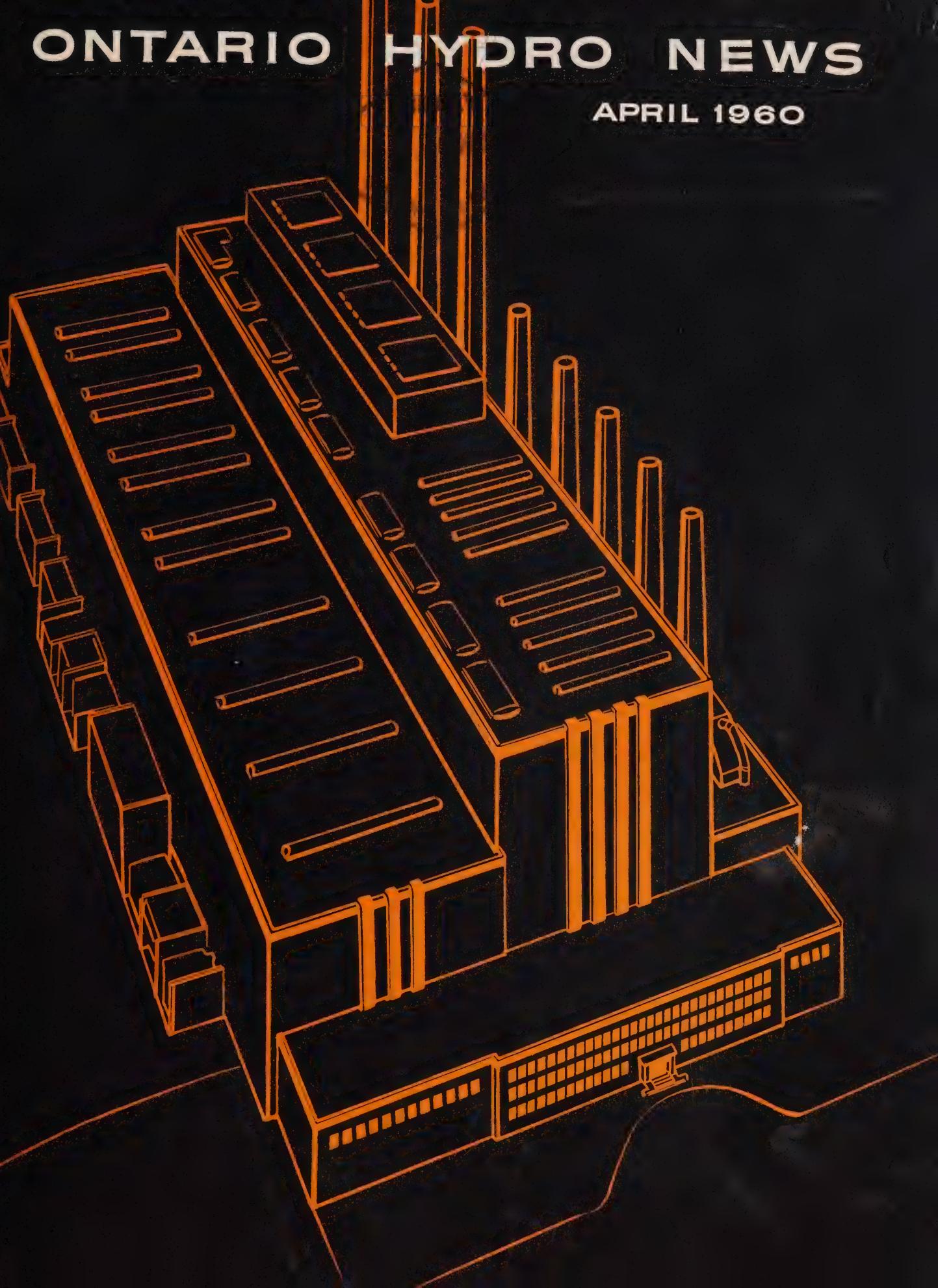
## IT'S A MODEL

*(Continued from page 9)*

million mark, approximately one third of its citizens are covered by the Compensation Act. The increase in the accident rate always keeps pace with the industrial growth, running annually to a quarter of a million. The Board's function, while being met efficiently and effectively, continues to expand. Its motto, "Justice, Humanely and Speedily Rendered," cannot afford to be shelved. •

# ONTARIO HYDRO NEWS

APRIL 1960





# ONTARIO

## THE COMMISSION

JAMES S. DUNCAN, C.M.G., LL.D.  
Chairman

W. ROSS STRIKE, Q.C.  
First Vice-Chairman

HON. ROBERT W. MACAULAY, Q.C., M.P.P.  
Second Vice-Chairman

LT.-COL. A. A. KENNEDY, D.S.O., E.D.  
Commissioner

D. P. CLIFF  
Commissioner

J. M. HAMBLEY B.Sc.  
General Manager

OTTO HOLDEN, B.A.Sc., C.E., D.Eng.  
Chief Engineer

ERNEST B. EASSON, B.Com.  
Secretary

## EDITORIAL BOARD

JAMES S. DUNCAN, C.M.G., LL.D.

DR. V. S. WILSON  
President, O.M.E.A.

HARRY HYDE, P.Eng.  
President, A.M.E.U.

J. M. HAMBLEY B.Sc.

OTTO HOLDEN, B.A.Sc., C.E., D.Eng.

ERNEST B. EASSON, B.Com.

JAMES A. BLAY

BOYD L. GRAHAM

•

Editor - BOYD L. GRAHAM

•

SUBSCRIPTION: \$5.00 PER YEAR

Published by  
The Hydro-Electric Power Commission of Ontario  
620 University Avenue, Toronto.

Authorized as second class mail, Post Office  
Department, Ottawa

Material published in Ontario Hydro News may  
be reprinted without permission.  
Most photographs are obtainable on request.



Member of the Canadian  
Industrial Editors Association  
and the International Coun-  
cil of Industrial Editors.



APRIL, 1960

VOL. 47, NO. 4

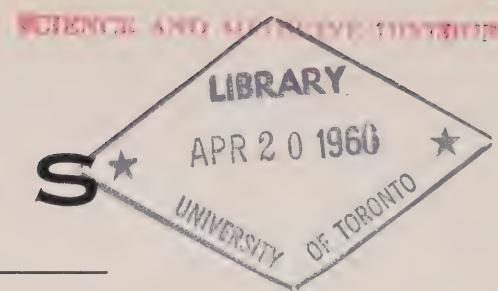
## CONTENTS

PAGE

Power Goliaths	2
Installation of new units at Richard L. Hearn Generating Station poses some weighty problems	
Easter Symbols	6
Many customs had their origin in pre-Christian times	
Northland's New Era	8
Extra-high-voltage system will transmit power from Northern Ontario	
Still Going Strong	10
Tiny Streetsville generating plant has unique record of community service	
Jack-of-all-Trades	12
John Temple operated Streetsville plant for 27 years	
Down Our Alley	13
Bowling has been a favorite sport for 5,000 years	
Helping Homemakers	16
Ontario schools get new electrical appliances	
Let's Chat	18
With Ontario Hydro Homemakers' Service	
We Should All Promote	19
Panel provides pointers on promotion	
Along Hydro Lines	20
Capsule review of utility operations and activities	

## COVER "SHOTS"

OUR front cover this month salutes Ontario Hydro's Richard L. Hearn Generating Station in Toronto, where installation of four new units is nearing completion. The back cover shows construction activity at Otter Rapids on the Abitibi River in Ontario's extreme north.



## *off the wires*

ONE might say that Ontario Hydro engineers are becoming as ubiquitous as the Chinese. Our story on Pakistan's Warsak Project in next month's issue shows the prominent role that two former Hydro engineers, Corey Robbins and Ken Blakeman, had in construction of the vital Colombo Plan irrigation and hydro-electric project. Two more representatives, Kenneth Gemmel and Arthur E. Lock, are now on the job superintending operation of the new generating plant. A few days ago, we received word from J. E. "Dick" Sproule, retired transmission engineer, who is now in charge of the construction of a new line in faraway Ceylon.

\* \* \*

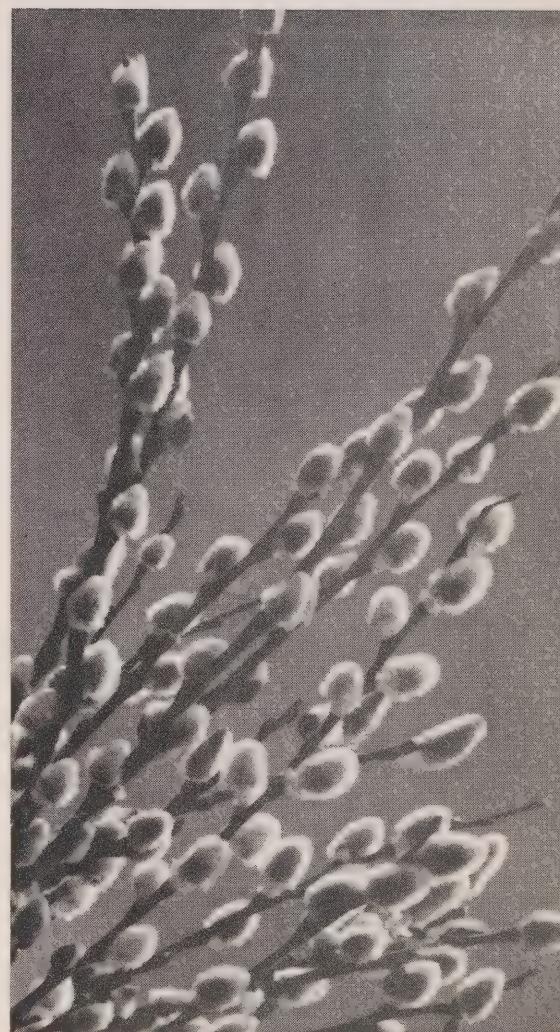
OUR CONGRATULATIONS to Gordon Stacey, of Guelph, who joined the ranks of utility managers a short time ago. The youthful General Manager of Guelph Board of Light and Heat Commissioners is a seemingly quiet person, but he has a reputation for quick thinking. That particular attribute saved his life in World War II. Based in the United Kingdom with the R.C.A.F. Bomber Command, the young navigator was aboard an aircraft shot down over Holland. Four of the seven-man crew were killed, but Flight-Lieutenant Stacey man-

aged to escape into Belgium, where he contacted members of the underground. They provided him with shelter and civilian clothing. While crossing a bridge in Liege one day with some of his benefactors, he encountered some Gestapo officers. One Nazi stopped and addressed Stacey rapidly in French. Literally quaking in his boots lest he be detected while wearing civilian clothing (a death penalty offence), Gordon managed to catch the word "fumer," and realized that the German was asking for a light for his cigarette. The German grunted his thanks and walked on. That was six weeks before the Allied troops invaded Europe, but the 22-year-old navigator managed to stay alive until Liege was liberated in September, 1944 (five months later), thanks to the protection of his Belgian underground hosts.

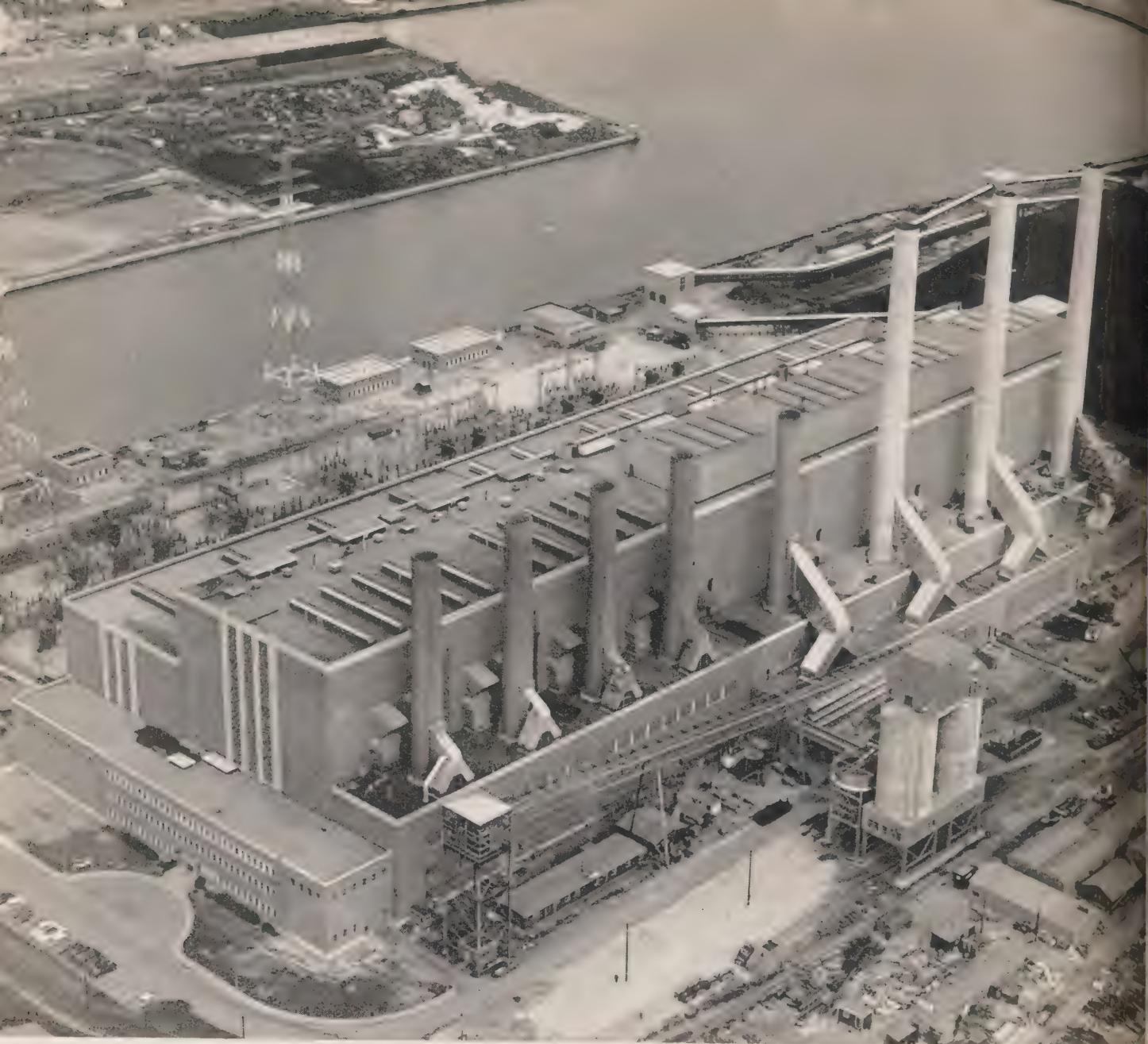
\* \* \*

ONTARIO HYDRO's Sales Promotion Division has set some ambitious objectives for the ensuing months of 1960. In the residential water heater field they're aiming a target of 30,000 rental units. In the electric heating category, our sales promotion people are looking to installations in 1,000 homes,

(Continued on page 22)



*Once more in misted April  
The world is growing green,  
Along the winding river  
The plumey willows lean.*  
—BLISS CARMAN, An April Morning.



ALREADY the largest thermal-electric plant in Canada, the Richard L. Hearn Station in Toronto will have a capacity of 1.2 million kw when installation of four additional generating units is completed during 1960.

# POWER GOLIATHS

## About a slow freight operation

### that brought vital new parts to R. L. Hearn G. S.

by J. G. Foster

*Oh, listen to the jingle,  
The rumble and the roar;  
The Cannonball goes puffin' by  
O'er hill and by the shore.  
She's hittin' seven miles an hour,  
Oh, hear the trainmen say:  
"The Hearn plant's just 200 miles  
"And three more days away."*

— ANON.

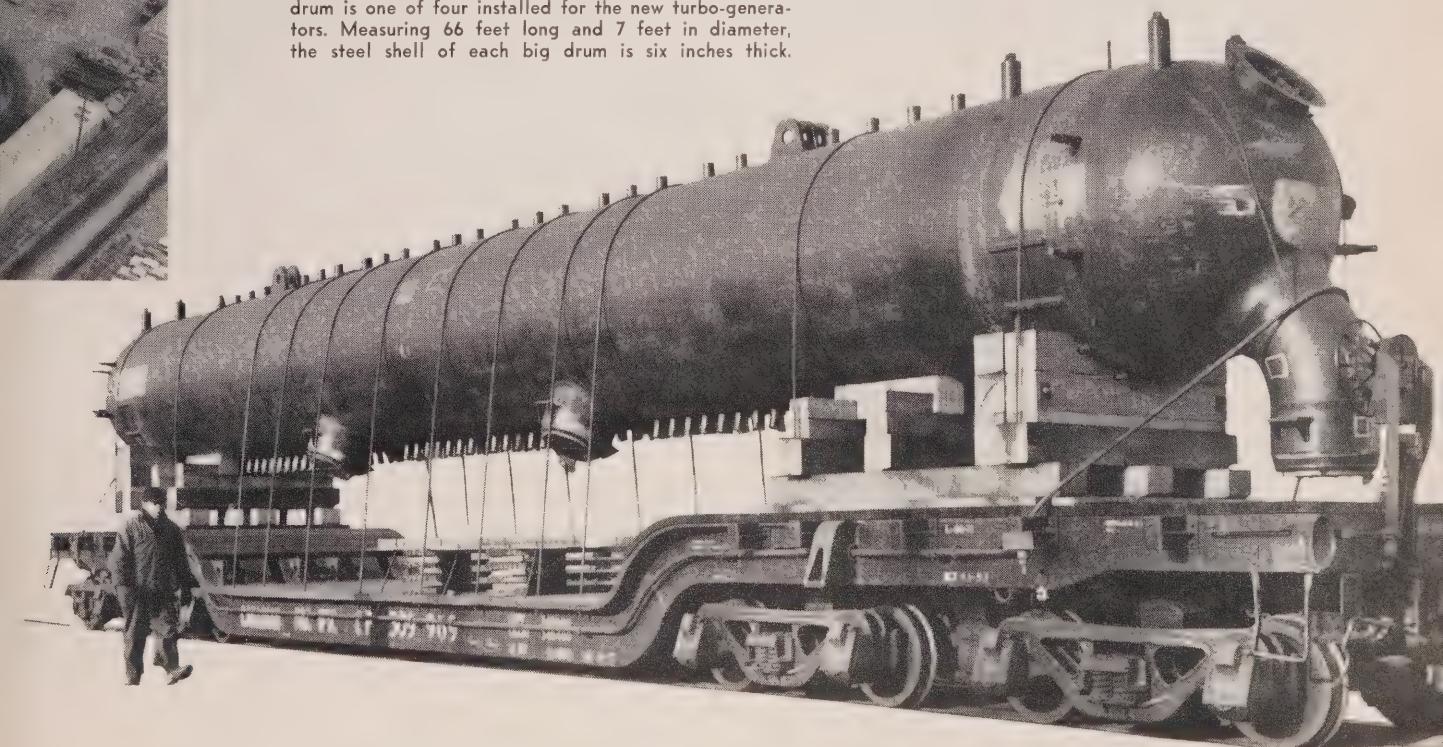
THIS version of the Cannonball ballad is dedicated to the three unsung heroes of a strange mission

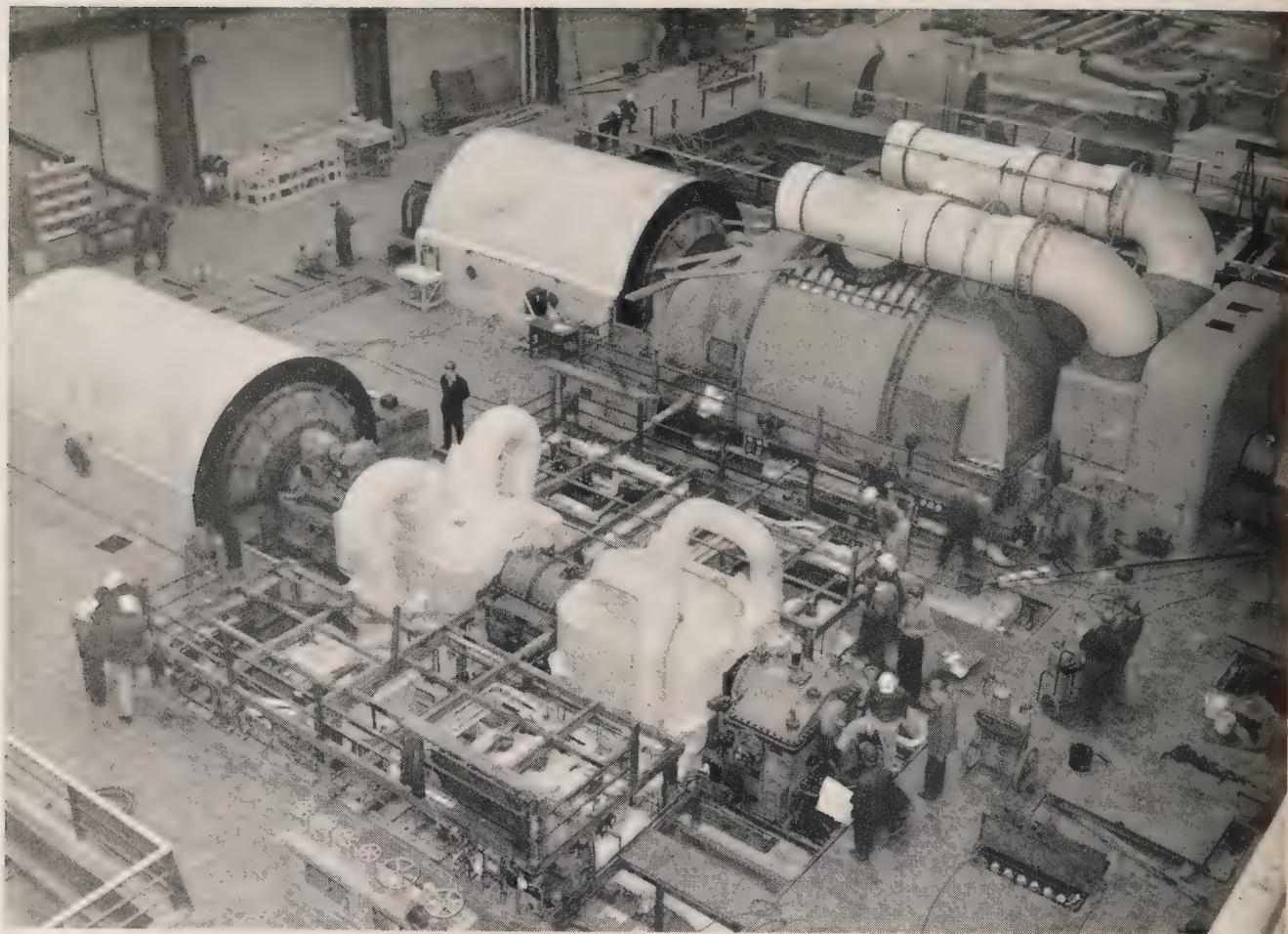
whose successful completion helped pave the way for a major addition to the Richard L. Hearn Generating Station later this year.

They're the C. A. Parsons and Co. men who rode herd on almost 300 precious tons of steel for 430 miles, perched in solitary splendor in the caboose of a special 25-car train.

In these days of the diesel locomotive  
(Continued on page 4)

ENROUTE from Galt to Toronto, this 165-ton steam drum is one of four installed for the new turbo-generators. Measuring 66 feet long and 7 feet in diameter, the steel shell of each big drum is six inches thick.





INTERIOR of the station on Toronto's waterfront, showing installation of one of the 200,000-kw units in progress.

motive and crack express, it took the little party five days to mosey from Sorel, Que., to the Hearn plant in Toronto. Yet, when the trip was over, they had nothing but praise for the carefully-trained Canadian National Railways crew.

Congratulations were in order, too, because this was the longest and heaviest train that ever hauled equipment into Canada's biggest thermal-electric generating station.

The cargo: a low-pressure turbine spindle and rotor weighing 85 tons apiece, and a 126-ton stator inner core for Hearn's No. 7 unit.

The train's top speed, stipulated by the parts' manufacturer, was 15 miles an hour. Most of the time,

to minimize swaying, it went even more slowly. The train was permitted to travel only by daylight, and often it had to creep into sidings, since all other traffic on the line had right of way over it.

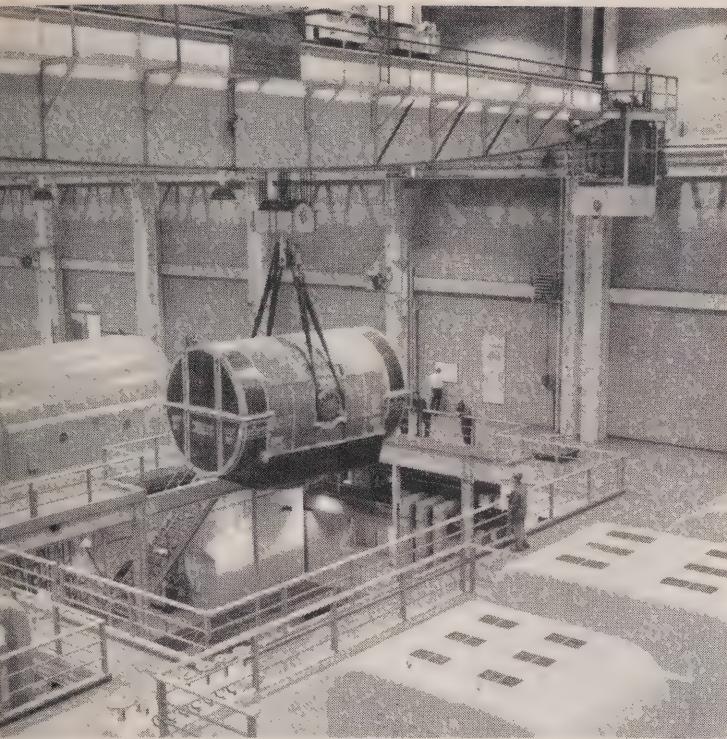
Shipment of the turbine spindle, the rotor and the stator inner core by rail was necessary because the winter freeze-up prevented delivery of the parts by lake boat. The outer stator casing for Unit No. 7, weighing 66 tons, had arrived earlier in the fall by that means.

The addition of Units 7 and 8 to the Richard L. Hearn plant later this year will boost its capacity to 1,200,000 kilowatts. Located on Toronto's waterfront at Unwin

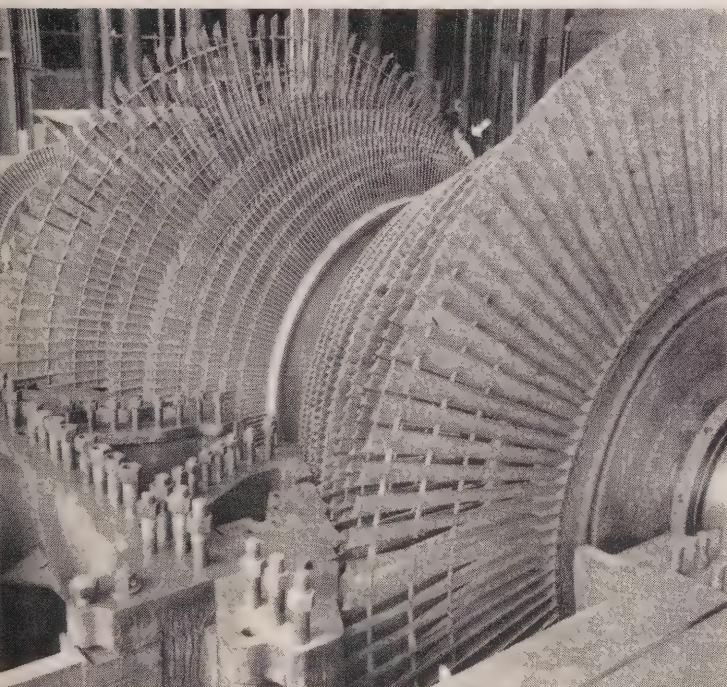
Avenue, the station officially opened in 1951, with the prime objective of providing additional power at the heart of the Southern Ontario System and to maintain a reserve of power in the event of service interruption or periods of low water.

The special Sorel - Toronto freight was an example of what co-operation and planning can do. The parts were needed at the plant in Toronto in order that assembly and testing of the unit could be carried out on schedule.

As the accompanying photos show, handling the massive components created some weighty problems.



STATION'S 150-ton electric crane maneuvers an inner stator casing into position. The casing weighs about 103 long tons.



THIS low-pressure rotor for one of the units dwarfs the workman indicated by the arrow. The 73½-ton unit has a maximum or tip diameter of 12½ feet and makes 1,800 revolutions a minute.

## VITAL STATISTICS ON THE RICHARD L. HEARN G.S.

The Richard L. Hearn Generating Station, Canada's largest, was officially opened on October 26, 1951. By mid-1953, the plant was operating with four units and a capacity of 400,000 kilowatts.

Increased demands for power from industry, home and farm resulted in authorization for the addition of four more units. First of these was placed in service in May, 1959, and the second in January, 1960. The two remaining units are scheduled for operation late this year.

The Richard L. Hearn G.S. will then have a capacity of 1,200,000 kilowatts.

Here are the comparative figures on the size and capacity of its eight units:

### STEAM GENERATORS OR BOILERS

	Units 1 - 4 (each)	Units 5 - 8 (each)
Height	120 feet	175 feet
Hourly Coal Consumption	50 tons	70-75 tons
Capability (hourly)	850,000 pounds of steam at pressure of 875 pounds per square inch.	1,350,000 pounds of steam at pressure of 1,800 pounds per square inch.

### TURBO GENERATORS

Capacity	100,000 kilowatts	200,000 kilowatts
Weight	590 tons	1,120 tons

Gases are dispelled from chimneys 200 feet high for each of the first five boilers. Three 300-foot chimneys will discharge gases from boilers 6, 7 and 8. Special mechanical and electrical equipment removes dust from the waste gases before they are discharged into the atmosphere.

Water requirements for cooling the eight units will exceed 3,000,000 gallons every five minutes.

# Easter Symbols



**D**URING April this year the Christian world celebrates the festival of Easter, which, with Christmas, is the most joyous of Christian seasons and holy days. This English word, Easter, and the German, Ostern, come from a common root, which, to the Norsemen, meant the season of the rising (growing) sun, the season of new birth. The same root is found in the name of the place where the sun rises (East, Ost). Thus the word, Easter, originally meant the celebration of the spring sun, which had its birth in the east and brought new life upon earth. This symbolism was transferred to the supernatural meaning of the Christian Easter, which marks the Resurrection of Christ and His new life upon earth, and brings a vision of personal immortality.

While Easter is essentially a religious festival, other customs and symbols — many of them with

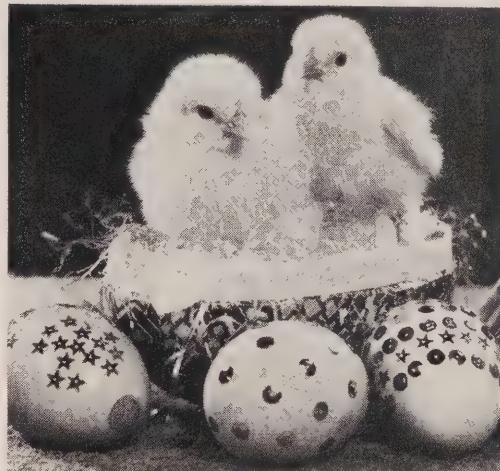


ONE OF THE MOST fertile animals our forefathers knew, the Easter rabbit, in pre-Christian times, served as a symbol of abundant new life. The Easter rabbit has never had any religious significance bestowed upon it, but, in some way, has acquired a novel role as a legendary producer of Easter eggs for children in some countries.

THERE'S NO TELLING how the custom of donning new clothes for Easter originated. Some say it is derived from the ancient theory that it was unlucky not to wear something new on this day. Others claim it comes from the long-established tradition that Easter should be the season for discarding old habits and starting afresh.

origins rooted in Indo-European mythology and superstition — have been retained and are still earnestly observed by many modern-day Christians. In some countries, for instance, people exchange a formal Easter kiss or kindle a new hearth fire on Easter Sunday morning, perpetuating ancient rites that accompanied pagan spring festivals. A symbol of fairly recent origin is the Bermuda lily—the Easter flower, which was first used to decorate church altars for Easter during the American Civil War.

Easter sunrise services, some believe, had their origin in an old legend that the sun dances or makes three cheerful jumps at the moment of rising on Easter morning in honor of Christ's Resurrection. All over Europe people would gather in open plains or on the crests of hills to watch the spectacle of sunrise on Easter morning.



OUR PRE-CHRISTIAN ANCESTORS found it a most startling event to see a new and living creature emerge from a seemingly dead object like the egg. The custom of using Easter eggs developed in many countries of Europe and Asia soon after their conversion to Christianity—probably due to the fact that eggs were a forbidden food during Lent. From early times, the faithful painted Easter eggs in gay colors, had them blessed, and gave them as gifts to friends.



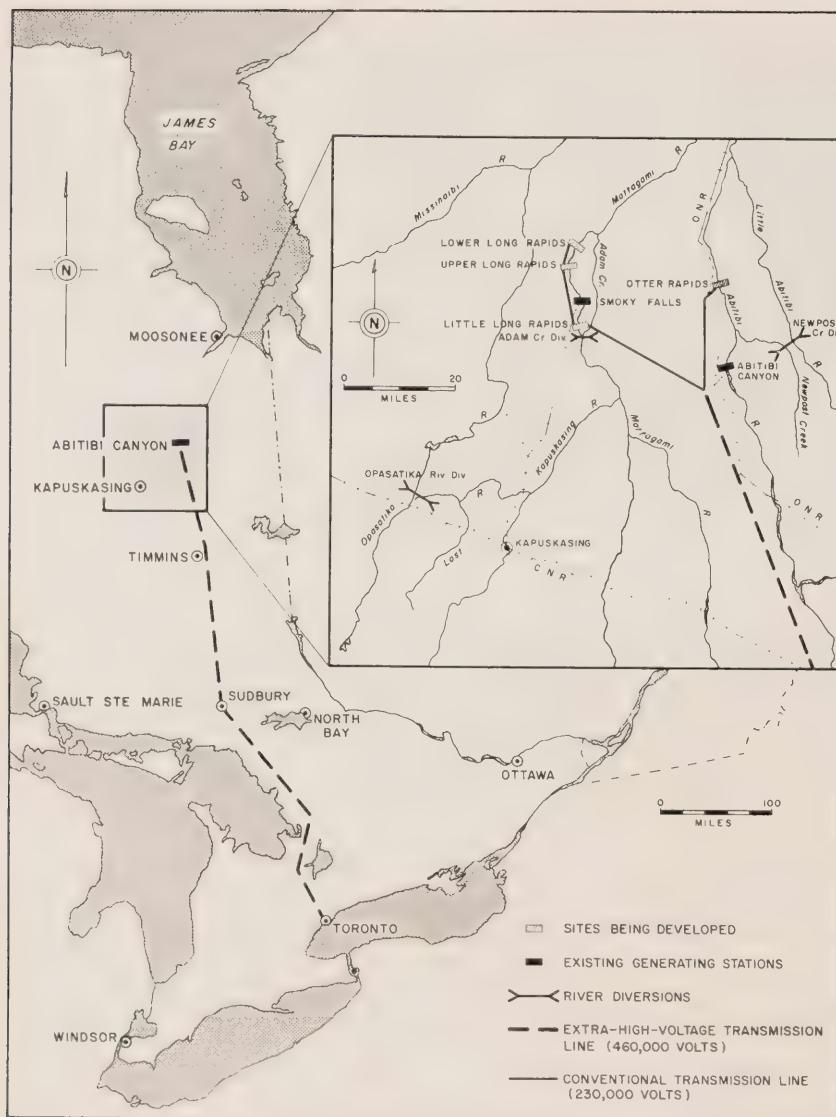
ACCORDING to an old legend, the sun dances or gives three cheerful jumps at the moment of rising on Easter Sunday morning—a belief that is traced to a pagan festival of spring, held to celebrate the planting of new crops.



SITE PREPARATIONS will start this spring at Little Long Rapids on the Mattagami River, 40 miles north of Kapuskasing, as the first step in the new six-year program.

—Photo by George Gorman.

## Northland's new era



A NEW era of power transmission has dawned in Ontario with plans for an extra-high-voltage system from hydro-electric sites in the remote James Bay watershed to heavy southern load centres.

Ontario Hydro announced in March a six-year construction program involving three new stations on the Mattagami River and North America's first major 460,000-volt transmission system, which will extend as far south as the Barrie area and eventually to Toronto, some 500 miles.

Chairman James S. Duncan, who estimated the development plan would cost about \$182,000,000, said recently that Hydro would save millions by using EHV instead of building several conventional circuits. It will provide power carrying capacity about four times that of lines operating at 230,000 volts, the highest voltage now used in Ontario.

"The development of extra-high-voltage techniques is of vital importance today, not only to Ontario, but to other provinces and many other countries," said Mr. Duncan.

"Early in the century, Ontario Hydro became one of the first utilities on this continent to employ high-voltage transmission. Now we are taking another major step forward in a new field to

overcome the problems of remote hydraulic sites and high transmission costs."

Electrical utilities have shown keen interest in Hydro's EHV progress at the Coldwater Project near Orillia since tests began on a special line last summer.

These tests are providing data previously unavailable, and painstaking studies have demonstrated that the six-year development plan incorporating EHV transmission will be more economic than equivalent thermal-electric generation.

The EHV trunk will deliver the output of future stations below James Bay to Hydro's combined Northeastern and Southern Ontario Systems. Its construction will be scheduled to fit in with the station-building program along a 15-mile stretch of the Mattagami River.

Site preparation will begin this spring for the southernmost plant at Little Long Rapids, about 40 miles north of Kapuskasing. It is scheduled for operation by the winter of 1963 with a tentative initial capacity of 114,000 kilowatts.

By the winter of 1965 the second station, farther downstream toward James Bay (to be designated as Harmon Generating Station), is scheduled for initial operation with a capacity of 110,000 kilowatts.

The third plant will be still farther downriver (to be known as Kipling G.S.). Preliminary plans call for a capacity of 132,000 kilowatts by the winter of 1966.

Some 30 miles east, construction is well advanced at the Otter Rapids station on the Abitibi River, which will be placed in service next year.

These four stations in the Moose River System will have a total capacity estimated at 528,000 kilowatts by 1966. They may be enlarged later in Hydro's long-range program of hydraulic development in Northeastern Ontario, where sites with a total capacity of about



THIS INTERESTING night view of the Otter Rapids project shows the diversion port area with the downstream cofferdam at the right. Winter concreting is an "under-cover" operation, taking place within areas enclosed by plywood and tarpaulins. Heating is provided by steam piped from the camp boiler-house, enabling workmen to do a "shirt-sleeves" job. Concreting for the project will involve the pouring of a total of 236,000 cubic yards.

1,500,000 kilowatts are considered capable of economic development over the next 20 years.

Power will be transmitted at 230,000 volts to a new terminal station near the existing Abitibi Canyon generating plant, about 230 miles north of Sudbury.

The line from this gathering point to the Sudbury area is scheduled for service in 1963, along with the first Mattagami plant and units 3 and 4 at Otter Rapids. It will be designed for 460,000 volts, but will operate at 230,000 volts until the second Mattagami station starts up in 1965.

The EHV line south from Sudbury will be specially designed to operate initially as a double circuit 230,000-volt line with provision for changes later to form a 460,000-volt single circuit line.

In addition to line and station construction, Hydro proposes additional facilities at other stations, construction of access roads and three river diversions.

The Little Abitibi River will be diverted into the Abitibi upstream from Otter Rapids via Newpost Creek to provide a useful increase of about 1,300 cubic feet per

second for Otter Rapids and other future plants on the Abitibi.

With diversion of part of the Opasatika River watershed into the Mattagami River, upstream from Little Long Rapids, it will be possible to increase the average flow to the Mattagami plants by about 500 c.f.s.

The third diversion project will permit excess water from the Mattagami River at the Little Long Rapids site to bypass the two lower sites via Adam Creek during flooding periods, with an estimated saving of \$13,000,000 in development costs.

Tradesmen will be hired locally whenever possible for the three Mattagami projects, whose construction schedules overlap. The work force is expected to exceed 800 men during the peak construction period at the first station.

Supervisory control of the plants will be provided from the new terminal station (to be known as Pinard T.S.) near Abitibi Canyon Generating Station, requiring additional staff accommodation and service facilities at Abitibi Canyon.

# SITE OF THE "THREE R'S"



**Streetsville municipal building once schoolhouse**

WHEN they enter the municipal building to pay their Hydro bills, many residents of Streetsville may recall, with a touch of nostalgia, the days when they learned their three R's in the same building. This two-storey structure, which houses the municipal and P.U.C. offices, once was the village school, and part of it was a former church. In addition to its present functions, it was, until recently, also used as a fire hall and housed the village fire engine.

The building was acquired in 1937, and was moved a distance of some 500 feet.

Recently, when renovation work was carried out on the municipal building, an interesting discovery was made. One section of the building, which formerly had an older addition attached to it, was being altered and workmen were cutting through the wall. It was found, to their amazement, that this was once the wall of the old Streetsville Methodist Church.

In reconstructing the history of the building, local authorities express the belief that the church became a school, and then the one-room school had a large two-storey addition built and attached to it. This accounts for the fact that one wall of the old church formed part of the wall of the newer school addition.

In uncovering the wall, the commemorative block of the old church was discovered. This historical piece was removed and donated to the Streetsville United Church, where it is now being kept.

•

# STIL

## **Streetsville folk**

AT the turn of the century the Credit River, which drops about 1,355 feet in its 56-mile length from the source in the Mono Mills area near Orangeville to its mouth in Lake Ontario, was an important power-producing stream. A series of little mills once used the flow for their operations. In the next decade, small electric generating stations sprang up, and began using this fast-flowing stream to produce power for the new electrical age.

One of these was the power plant at Streetsville. It began operation in the winter of 1907-8. Today the Village of Streetsville is still deriving electric power at peak periods from this 53-year-old plant, which is believed to be the only electric generating station in existence on the Credit River.

The history of this tiny power station is interesting. In the days when the late Sir Adam Beck, first chairman of Ontario Hydro, and others were campaigning for publicly-owned power, prominent citizens in Streetsville were doing something tangible about harnessing the water resources at their door step. The community's leading citizen, Dr. T. I. Bowie, who also served as Reeve, saw the opportunities which the Credit River presented for generating electrical energy, and started the movement for a municipally-owned power station. The site chosen was that of an old flax mill which had ceased operations and had been taken over by the village for taxes. A concrete dam, stretching 190 feet across the river and providing a 12-feet head of water, was built at a cost of some \$20,000.

The original cast iron turbine

# GOING STRONG

and of their veteran generating plant

by C. G. W. MacINTOSH

in the generating plant was installed towards the downstream side, but this first installation had no governor. Then a second turbine with a water wheel governor was added in 1912. These were connected with wooden crown and pinion gears to a line shaft and big wooden driving pulley, and by belt to the generator. The original generator was a Century horizontal type, capable of producing 150 hp when it was generating at peak with both turbines wide open. All the original equipment except the generator is still in service.

## Few Oil Lamps

Interesting events connected with the history of the small generating plant are readily recalled by V. C. Johnston, a member of Streetsville Public Utilities Com-

mission since its inception in 1934, and long-time Chairman of the Commission. He remembers the days when the century-old village's main thoroughfare, Queen Street, was lighted with a few coal-oil lamps and the progressive moves that were made to introduce the wonders of electricity.

About the time that the possibilities of producing electric power from the Credit River were being discussed, the Canadian Pacific Railway approached the town council to obtain a water supply at the depot for its engines. The railway agreed to lay a main from the pumphouse site to the north limits of the town, where the station was located. Reeve Bowie and other progressive Streetsville citizens seized on the plan to pump water for the CPR, and also to

generate electric power on the same site. As a result, the water supply pump was operated off the same shaft that drove the original electric generator. Streetsville thus became one of the early towns to have a good water supply, as well as enjoying the wonders of electric power.

The capricious Credit, which flowed so freely in the spring—frequently flooding over its banks—was not so beneficent in the dry periods of the summer. Often the power plant had to be shut down in the afternoon to build up a head of water to permit electric power development at night. Commissioner Johnston recalls that it was a usual occurrence to close the gates and build up the water supply in the headpond during

(Continued on page 12)



MODERN PUMPHOUSE adjoins the veteran electric station and pumphouse of Streetsville P.U.C. on the Credit River. The old plant began operation in 1907-1908.



FORMER OPERATOR John Temple and Commissioner V. C. Johnston (right) start up the unit.

# JACK-OF-ALL-TRADES



"DEAN OF OPERATORS" at Streetsville's tiny power plant, John Temple (now retired) inspects one of the meters. Mr. Temple relinquished his duties in 1956 after 27 years' public service.

OLDER citizens of Streetsville can tell some remarkable stories about the one man who kept the village electric power and water supply operating with scarcely an interruption. The name John Temple became almost legendary from 1929 until 1956, when he retired due to ill-health.

Mr. Temple operated the power plant, and also the pump house water supply and filtration station. He was indeed a "jack-of-all-trades," connecting the electric power service, reading meters, making power line improvements and, with the aid of his familiar bicycle, rushing to the scene of trouble during bad storms to repair damage and restore service quickly.

It was said of him that he never learned to climb a pole until he was nearly 50, but then he mastered lineman's techniques and was on the job repairing damage or rebuilding lines whenever needed.

Long-time residents can remember winter problems when their

electric power supply was threatened by anchor ice conditions, which caused blockage at the head gates, shutting off the flow to the turbines. On one such occasion, a serious threat to the community's power developed, and John Temple devised a unique way of solving the difficulty. This enterprising plant operator went out in search of sufficient coarse salt to melt the ice and release the blockage. Returning with a dozen bags of the salt, he poured great quantities into the head pond area just above the racks. This had the effect of cutting the ice and restoring the flow. The stream did the rest and the town's electric power system functioned efficiently again.

After that experience, several bags of salt became standard equipment in the small powerhouse, and were stored there throughout the winter months in case of sudden emergency. Mr. Temple was not the first or only operator of the Streetsville power station and filtration plant, but he did serve the longest period—nearly 30 years as a "one-man show." •

*(Continued from page 11)*

long, hot days of the summer. But, nevertheless, the power plant was ready for operation in the late afternoon before darkness and the lights were due to come on.

Before the turn of the century, Streetsville was a flourishing community of more than 2,500 people. Boasting four hotels, it also was the site of a number of flour mills using the flow of the Credit River.

But then its population diminished until only 600 permanent residents remained. The village's source of electric power was sufficient to take care of the needs of the citizens for nearly a quarter of a century. In those days, the average household had little more than electric lighting. But with the introduction of new power-consuming electrical appliances in the 1930's, it became evident that the tiny generating station could not keep up with the demand.

## Sign Power Contract

When the power situation in the village began to become critical in the early 1930's, a movement was started to join the Ontario Hydro family of communities. However, this was not generally accepted in Streetsville, and strong opposition to the movement developed. It was nearly three years before a successful vote was taken, and the local utility was established.

Until that time, the original generator in Streetsville's tiny power plant was producing 60-cycle power at its full capacity of 150 hp. When Streetsville joined the Hydro family, a new 25-cycle motor generator set was installed in place of the old original generator to act as a booster and supplement power delivered from the Commission's Niagara Division, now part of the Southern Ontario System.

In 1955, with Ontario Hydro's vast frequency standardization program under way in the southern part of the province, the supple-

*(Continued on page 24)*

Here's  
A Game  
That's  
Right ...



# DOWN OUR ALLEY

If any sport comes close to being universal in appeal these days it would have to be an ancient yet still intriguing game called bowling. In 5,000 years it has never been so popular.

Almost every country on earth has one or more versions of the sport in which a ball may be the only necessary item, but where expensive additional equipment is as often used as not.

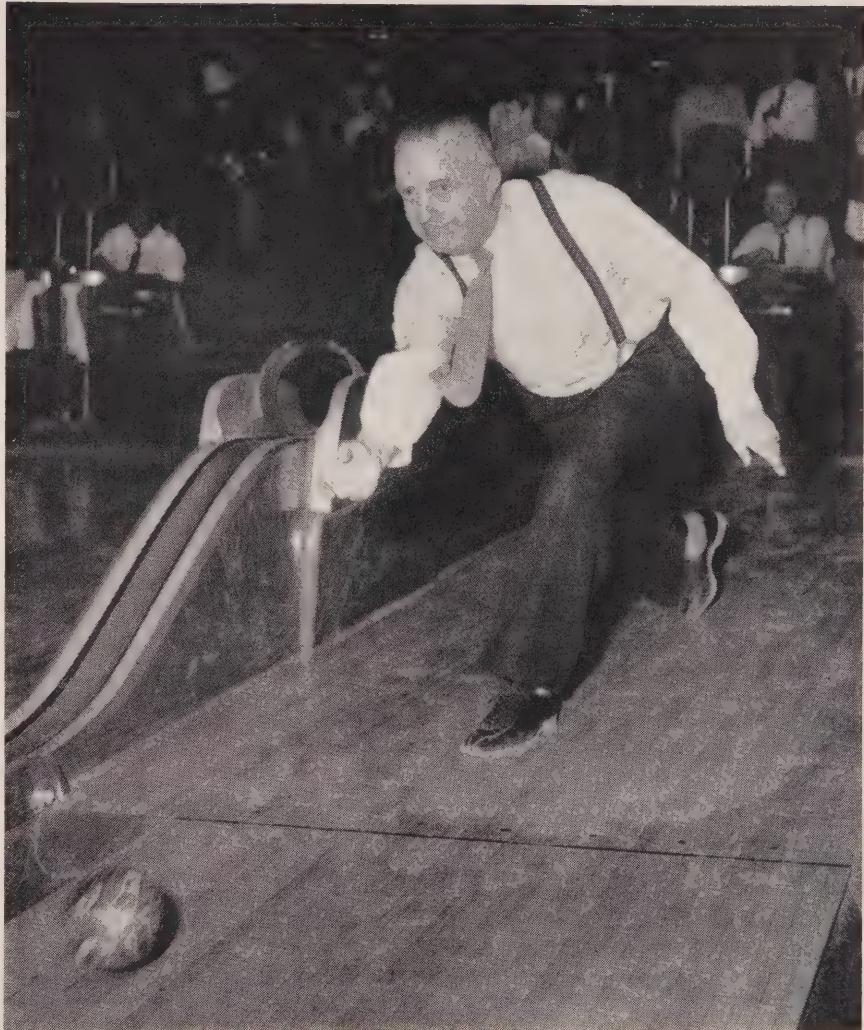
Go bowling in Ontario and chances are that they'll set up five pins for you to shoot at. Visit the United States and you'll find the 10-pin or tournament game in favor. Even in that country there's a scaled down version of 10-pins called duck pins that's popular in some areas.

Italians still enjoy Bocci—a game in which no pins are used and where body technique and skill count in putting the ball closest to a mark or stake.

The men of Lancashire, Yorkshire and North Wales delight in lawn bowling, while a different version of the same game is played in Canada.

Even the honorable Scottish game of curling, which now enjoys great popularity in many parts of Canada, is (according to some experts) still another version of bowling.

But whatever version of bowling  
(Continued on page 14)



CANADIAN INTEREST in five-pin bowling is readily apparent in the large annual membership of the two leagues that operate under the general auspices of the Ontario Hydro-Electric Club. Here E. W. Kingstone, a member of the men's league, aims a fast one at the head pin.



(AMF Pinspotters Inc. photo)

you like, it's a game which today can lay claim to being the most popular participant sport in the world. It boasts an estimated 25 million enthusiasts of every race, color and creed. Canada alone has over a million.

How did it get started? No one is certain. For bowling—in one form or another—has been around for more than five thousand years. Primitive man tossed stones at pointed rocks to sharpen his eye, first for battle; later for recreation.

Modern five-pin and 10-pin bowling may have had its beginning in the ancient game of "bowles," an outdoor game similar to lawn bowling which was popular in mediaeval times.

Again, it may be a descendant of "skittles," which the early Egyptians appear to have introduced. Ten wooden pins served as the target for a round stone which was rolled between two uprights. Later the Dutch perfected a nine-pin version of the same game.

One 19th Century authority is William Pehle, who, as secretary of the German Bowling Society, authored a book in which he claimed that bowling and bowls were, in effect, two entirely different games of different origin.

Pehle argues that the modern game may have had its antecedents in Germany, or at least central Europe. Evidently, every ancient German worthy of the name carried a "kegel," a sort of all-purpose club or pin somewhat like an Indian club. It could be used for setting-up exercises, as a hammer or for fighting. Anyone who used the kegel for any purpose whatsoever was called a kegler, a word used in Germany today to denote a bowler.

The kegel was also used to determine a German's religious status. Clerics required each man to place his kegel topside up at the end of one of the long, narrow church cloisters. Given a reasonably round pebble, he had to roll it down the

aisle and knock over the kegel. Success indicated he led a chaste life.

Although the practice was abolished in the 5th Century, probably to the delight of clean-living but incompetent bowlers, the clerics continued their game of rolling pebbles at a number of kegels to see who would knock down the most. Later the game, played with larger pebbles, was extended beyond the churches and monasteries to upper class laymen.

#### Luther Was a Fan

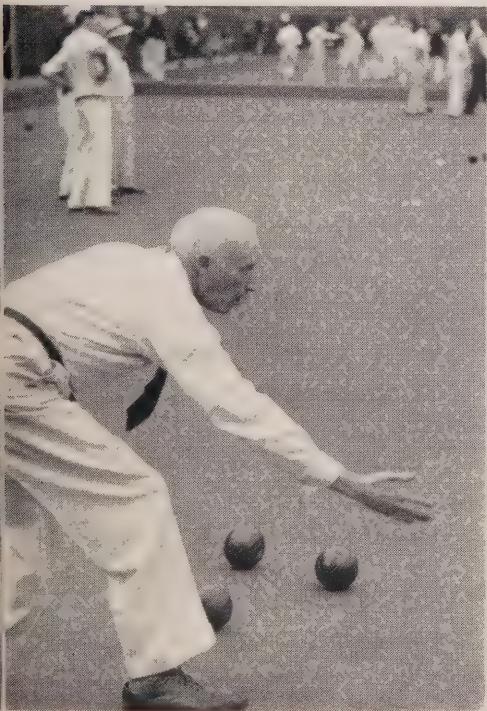
As wooden balls and longer pins came into use, individual cities developed rules, especially regarding the number of pins. Martin Luther practised with several combinations on his own alley until he decided nine pins made an ideal game. That number gradually became standard in Germany.

Bowling spread through Europe during the Middle Ages, although it was never received very enthusiastically in Britain. It was played

IN BOWLING LANES are attracting new enthusiasts in  
y, Norway, Sweden, Central America and now Japan.



CANADIAN WINTERS have helped to popularize the Scottish bowling variation—curling. Among the thousands of Canadian devotees, there are few who do not nurse a secret ambition to skip a rink to victory in the MacDonald Brier Tankard held in Fort William, Ont., this year.



by JOAN ALLEN

GENTRY of medieval times amused themselves with "bowles". In 1588, Sir Francis Drake, captain of the English fleet, calmly finished a game of bowls while the supposedly invincible Spanish Armada sailed up the English Channel to meet defeat. Today many Canadian communities have at least one lawn bowling club.

on beds of clay or mashed cinders, and there were very few indoor or wood-surfaced alleys.

No one is sure when the Dutch brought bowling to North America, but Washington Irving speaks so casually of the game in "Rip Van Winkle" that one assumes bowling was well-known in 1818, when he wrote the story. At any rate, the tiny, green-coated men who bowled nine-pins with old Rip in the Catskills have become legendary.

As bowling spread from the New York area along the seaboard, it was followed closely by gambling. Just before the turn of the century, state legislation to prohibit nine-pin bowling came into effect.

The laws had a loophole. Since the legislation specifically prohibited nine-pins, a group of men, who liked bowling as a sport, chose 10-pins for their game and met as the American Bowling Congress in 1895. The congress made rules, called for uniform equipment and organized tournaments.

About 10 years later, another group, tired of the heavy 10-pin ball, came up with a game they called duck pins, using 10 miniature pins and balls similar to those used in lawn bowling. At the time they wanted miniature alleys, but, since no one would build them, they were forced to play on regulation 10-pin alleys.

#### The Canadian Game

Canadians began bowling 10-pins around the turn of the century, but the game was never popular here. In the early 1900's, a group of business men with the Toronto Bowling Club sought a faster, less strenuous game. They tried duck pins and candle pins, but were not enthusiastic about either. Finally, in 1909, Thomas Ryan developed five-pins with all-wood pins smaller than those used in 10-pins.

As the game grew in popularity, it became clear: Canadians liked five-pins. The first recorded game

(Continued on page 24)

# HELPING



ONTARIO's future housewives will feel quite at home with electrical equipment by the time they're presiding in their own homes. In fact, they'll be thoroughly familiar with almost all modern electrical appliances.

Why? Because municipal utilities and Ontario Hydro, in co-operation with electrical manufacturers, are jointly supplying major electrical appliances to home economics classrooms in many Ontario schools. In the past, some utilities and a few progressive dealers provided appliances at re-

duced prices for this purpose, but no co-ordinated system of supply and replacement was available.

The new program provides for regular replacement of appliances every few years, or when new models incorporating major changes become available. This ensures that the equipment used for instruction in the classrooms is modern and measures up to, if not surpasses, the performance of other types of equipment.

To date, over 300 major appliances have been installed in 100 Ontario schools.

For example, more than 44 electric ranges have been installed in 24 Hamilton schools. In Lindsay District High School, a dishwasher, automatic washer and dryer, refrigerator and three stoves have been placed in the home economics room by the Lindsay Hydro-Electric Commission.

Fort William Hydro-Electric Commission has equipped the home economics room at Fort William Composite School with three ranges, a refrigerator and an automatic washer and dryer.

Toronto Hydro recently re-



OUT OF THE WASHER into the dryer go the tea towels used by the cooking class at Oakridge High School, London. The automatic

electric washer and dryer, as well as a refrigerator and two ranges, were installed in the new school under Hydro's province-wide program.

# HOMEMAKERS

placed all solid or slow speed elements and made minor repairs and adjustments on existing ranges in the home economics rooms of Toronto schools. In 1960, Toronto Hydro will replace about 40 ranges which are six years old or older, and will replace other major equipment whenever necessary.

For example, rural areas are also benefiting from this appliance program. Ontario Hydro, through its Western Region, had supplied two ranges, a refrigerator, an automatic washer and dryer, and an automatic dishwasher to the Rural Shop and Home Economics Centre located at Woodstock fair ground. The Centre serves students in 36 rural areas.

Judging by these activities, the Province's wives of tomorrow are going to have a thorough education in domestic science.

And, according to the poet who penned these lines, it's a pretty important aspect of family life:

"He may live without books—  
what is knowledge but grieving?  
He may live without hope—what  
is hope but deceiving?  
He may live without love—what  
is passion but pining?  
But where is the man that can  
live without dining?" (electrically, of course).

—by Joan Allen.

COMPANIONSHIP WHILE YOU COOK is the motto in the home economics room of Lockerby Composite School at Sudbury. Under Hydro's electrical appliance program for Ontario schools, Lockerby was presented with electric ranges, two refrigerators, a dishwasher and an automatic washer and dryer.



TEACHERS AND STUDENTS try out new electric range and refrigerator installed in home economics room of Coronation Public School at Peterborough. From left are: Mrs. Peggy Hawthorn, Principal Ted King, Mrs. Eleanor Roode, Brenda Quinn, Mrs. George Brotherstone and R. H. Aspinall, manager of Hydro's Peterborough Area, who presented equipment.





# LET'S CHAT

with **Gwyneth Reed, Home Service Consultant, Ontario Hydro Homemakers' Service**

HERE comes a day in every homemaker's life when she needs a dinner in a hurry. Perhaps unexpected company appears, or her bridge game or committee meeting lasted longer than usual and she is late getting home. To meet this emergency we suggest she use a delicious, quick-dish from the recipes demonstrated in "Hydro Showtime." It is Chicken Paprika.

To round out a completely quick-preparation meal, we offer this menu:

Tomato Juice  
Chicken Paprika  
Fluffy Rice Spiced Peaches  
Tossed Salad  
Rye Bread  
Ice Cream Cookies  
Coffee

The indispensable electric frypan, or saucepan, is wonderful for cooking and serving your chicken. Here's the recipe:

#### Chicken Paprika

4 lb. chicken (fryer) disjointed  
1/3 cup flour  
1/2 teaspoon salt  
1/8 teaspoon pepper  
6 tablespoons butter  
1 tablespoon paprika  
1 teaspoon sugar  
1 package onion soup mix  
1/2 cup hot water  
1 cup cream

Mix flour, salt and pepper and coat pieces of chicken with it. Stir in paprika and sugar. Brown chicken about 10 minutes at 360°. Add onion soup mix to water. Pour over chicken. Cover and

cook 20 minutes at 220°. Add cream and cook 10 minutes. Serve over rice.



We have been demonstrating the use and care of appliances, through our combination cooking school and appliance demonstration, all over the Province. This presentation is called "Hydro Showtime." We have been to St. Catharines, Hamilton, St. Thomas, Harrow, London, Dundas, Etobicoke and Grimsby. There are schools scheduled for Northeastern and Northwestern Regions in May.

The program is varied. A movie, "Meet Mrs. Swenson," starts the show. Then the features of the range and small appliances are shown by cooking a complete dinner. The versatility of portable appliances is shown further through preparation of a second meal. A brief lighting demonstra-

tion with a tri-light table lamp gives tips for buying a lamp. Features of modern, automatic laundry equipment emphasize the difference between laundering today and laundering in grandmother's day, when her washday recipe was:

(From Readers' Digest—Aug. 1959)

1. Bild fire in back yard to het kettle of rain water.
2. Set tubs so smoke won't blow in eyes if wind is peart.
3. Shave 1 hole cake lie sope in bilin water.
4. Sort things. Make 3 piles, 1 pile white, 1 pile cullord, 1 pile work briches and rags.
5. Stur flour in cold water to smooth, then thin down with bilin water.
6. Rub dirty spots on board. Scrub hard, then bile. Rub cullord, but don't bile—just rench and starch.
7. Take white things out of kettle with broom strick handle, then rench, blew and starch.
8. Spred tee towels on grass.
9. Hang old rags on fence.
10. Pore rench water in flower bed.
11. Scrub porch with hot sopy water.
12. Turn tubs upside down.
13. Go put on cleen dress—smooth hair with side combs, brew cup of tee—set and rest and rock a spell and count blessins.

Showtime is a deviation from the old-fashioned cooking school. We use modern foods and modern appliances. We feel this is a modern way to show you how Electricity Sparks the Sixties. •



PANEL discussion on sales promotion was handled by an Ontario Hydro quartette, consisting of (left to right): Ivan Widdifield, Gordon McHenry, Roy Harmer and J. A. Blay.



## WE SHOULD ALL PROMOTE

Toronto Hydro supervisors hear discussion on sales promotion and advertising

ONTARIO Hydro and the associated municipal utilities are depending upon all their employees for help in promotion of a greater use of electricity.

This was the message imparted to about 100 Toronto Hydro-Electric System supervisors through a panel discussion of sales promotion and advertising at a recent dinner meeting.

An Ontario Hydro foursome composed of W. Roy Harmer, director of the Sales Promotion Division; James A. Blay, director of the Information Division; Gordon M. McHenry, manager of Residential Sales; and Ivan S. Widdifield, manager of Commercial and Industrial sales, gave its listeners an absorbing rundown on why sales promotion and advertising are needed, and how it is being done.

Mr. Harmer said that since the appearance of large quantities of natural gas in Ontario, the need for electrical promotion has become increasingly evident to Hydro and the municipal utilities. The gas companies, he said, are conducting an intensive promotional campaign.

Mr. Harmer noted that 42 per

cent of utility revenues came from residential sources, and that of that amount, 18 per cent is water heating.

Using a chart, he pointed out that, in 1954, practically 100 per cent of water heaters installed in the Metropolitan Area were electric. In 1958, the percentage had dropped to 25. Over that four-year period, he went on, this represented a loss of 32,750 water heaters and revenue of \$2,500,000 to the utilities.

In 1959, a number of utilities took positive action and stopped this downward trend, Mr. Harmer said. The difficult job now is to start an upward trend.

Mr. Blay stressed the importance of advertising in sales promotion. Ontario Hydro is carrying its "Live Better Electrically" campaign to as many people as possible through the use of mass media. Ads are running in 38 daily and 232 weekly newspapers, with a total circulation of over 2,000,000; "Live Better Electrically" messages are also scheduled for radio and TV, consumer magazines, and trade and ethnic papers. Bus and car cards are being used as well as cards on Hydro trucks.

"We're hitting on all fronts," he said.

An employee can help promote, Mr. Blay pointed out, "by being a 100 per cent user of electricity in his home."

Mr. McHenry observed that every employee should tell his friends and relatives how wonderful electrical appliances are.

He said natural gas was having its greatest success in new suburban housing developments where the builder installed gas water heaters before the homes were put up for sale.

To promote sales in this area, the utility has to work with the contractor, and may have to resort to incentives to attract his support, Mr. McHenry said.

Mr. Widdifield said that for commercial sales it was necessary to get out and sell by personal contact, not only the users, but those who had influence, like consulting engineers and contractors. Utilities should emphasize electric commercial cooking, air-conditioning, and heating, and, with the trend to higher levels of illumination, should concentrate as well on lighting.

# ALONG HYDRO LINES



## Order turbo-generator for nuclear station

Atomic Energy of Canada Ltd., has awarded a \$4,000,000 contract for a turbo-generator to be installed in the Douglas Point nuclear electric plant near Kincardine, Ont. The contract for the 200,000-kw unit has been awarded to Associated Electric Industries (Canada), and some of the work will be carried out at the Peterborough works of Canadian General Electric Company Ltd.

## Utility shop doing brisk business

Reporting on the 1959 operations of the appliance repair shop of London P.U.C. recently, General Superintendent Thomas Gagen said that 10,400 appliances ranging from baby bottle warmers to electric dishwashers were repaired last year at an average cost of \$5.60. Mr. Gagen pointed out that private repairmen, in many cases, were referring complex appliance repairs to the utility.

## WILLS MACLACHLAN, SAFETY PIONEER, DIES

WILLS MACLACHLAN, 74, retired consulting engineer, died recently at his home in Maple, Ontario, after a lengthy illness.

Born in Toronto, Mr. MacLachlan attended the Model School, St. Andrew's College, where he was one of the original pupils, Jarvis Collegiate Institute, and the School of Practical Science, University of Toronto, from which he graduated in Electrical and Mechanical Engineering in 1907.

Before retirement, he was head of the Ontario Hydro's Employee Relations Department, a member of the Executive staff of the Toronto Hydro-Electric System, and, from 1915, Secretary-Treasurer and Engineer of the Electrical Employers' Association of Toronto.

He was an internationally recognized authority on the effects of electrical shock on human beings, having dedicated himself to the cause of saving lives by means of artificial respiration. He promoted and co-ordinated research into this complex type of injury, and published many outstanding papers on the subject.

Following his retirement from the Commission in 1952, he published a comprehensive index of articles, books and reports on electrical shock and correlated subjects. He has provided for the Commission a well-indexed file of the recognized literature on electrical shock and burns.

Mr. MacLachlan had served as President of the American Society

## Open first electrically- heated area office

First of six new electrically-heated Ontario Hydro rural area offices scheduled for completion in 1960 was officially opened at Beachville recently.

The new area office will serve the Woodstock-Ingleside area, and is the first electrically-heated office



WILLS MACLACHLAN

of Safety Engineers; General Chairman of the Executive Committee, Public Utilities Section, National Safety Council; President, Ontario Society of Safety Engineering; Chairman of Medal Awards Committee, and a member of the Accident Prevention Committee, Edison Electric Institute, New York. He was vice-chairman of industrial relations, Engineering Institute of Canada; President of the Royal Canadian Institute and Chairman of the Outpost Hospital Committee of the Ontario Division of the Red Cross Society.

He was author of the Commission's pension and insurance plan, which became effective on November 1, 1923.

building in Oxford County.

Officiating at the ribbon-cutting ceremonies were: Warden E. R. Pearce, Oxford County; Ontario Hydro's Western Region Manager R. M. Laurie; Beachville Manager R. T. Warwick, and Rev. C. D. Daniels, who dedicated the building. The office is located approximately half a mile north of Beachville.

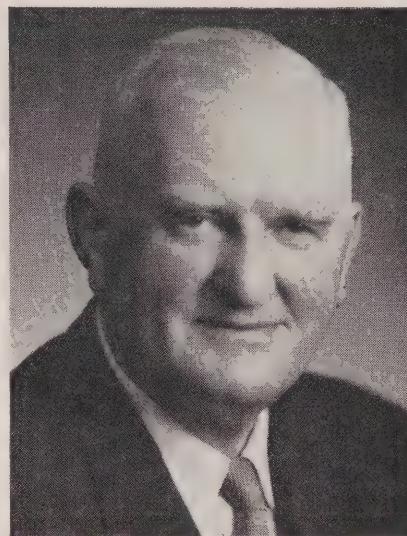
## W. L. FRASER DIES, SUCCEDED BY GORDON WILLOWS

WILLIAM L. FRASER, director of Ontario Hydro's St. Lawrence Power Project, died at Cornwall, February 18. He was 65.

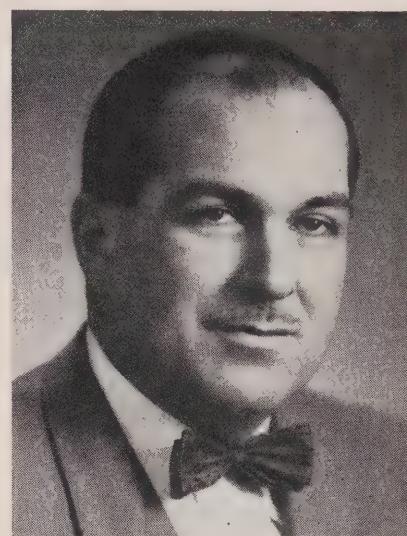
Born in Thorburn, N.S., Mr. Fraser joined Ontario Hydro in 1947 as Project Manager of Hydro's Chenaux development on the Ottawa River. He later was appointed Project Manager at the Sir Adam Beck - Niagara Generating Station No. 2 at Queenston, and was named Assistant Director of the St. Lawrence Project in 1957, and Director in May, 1959.

Mr. Fraser graduated from Dalhousie University in 1915 with a B.A. degree, and, in 1917, received a B.Sc. degree from McGill University. During the First World War he served as a lieutenant with the Canadian Engineers. He was a member of the Association of Professional Engineers of Ontario and the Engineering Institute of Canada.

T. Gordon Willows has been named as Construction Manager of the St. Lawrence Power Project at Cornwall. Mr. Willows has been associated with the St. Lawrence Project as project engineer, special



W. L. FRASER



GORDON WILLOWS

assistant to the Commission's Chief Engineer, Dr. Otto Holden, and, until this appointment, as Field Project Engineer. Prior to 1954, Mr. Willows served as assistant project engineer at a number of Hydro projects, including the Sir Adam Beck - Niagara Generating Station No. 2, Otto Holden G.S., George Rayner G.S., DeCew Falls G.S. and Ear Falls G.S.

Born in Winnipeg, Man., in 1912, Mr. Willows graduated from the University of Manitoba in 1935 with a degree in civil engineering. He joined Ontario Hydro in 1937 as a field draftsman.

During World War II, he served with the Royal Canadian Navy. He is a member of the Association of Professional Engineers of Ontario.

### Name new Essex Area Manager

H. A. Blomme has been appointed Manager of Ontario Hydro's new Essex Area.

A graduate of the University of Manitoba in electrical engineering, Mr. Blomme received his M.S. from the University of Toronto. Joining the Ontario Hydro staff in 1947, Mr. Blomme was district meter engineer for Essex County. He succeeds F. L. Archibald, who was recently appointed Sarnia Area Manager.

The Essex Area includes the former Windsor, Harrow and Kingsville Areas, as well as Pelee Island, and serves a total of 14,819 customers.

## CHANGE REGIONAL BOUNDARIES

AN important change in Ontario Hydro's regional boundaries was recently announced by General Manager J. M. Hambley.

Effective March 31 this year, Oshawa and Bowmanville Areas were transferred from the jurisdiction of the East Central Region to the Toronto Region, which was coincidentally re-designated as the Central Region.

In announcing the change, Mr. Hambley pointed out that the revision of these regional boundaries would have several important

results. Besides improving the relative proportion of customers, municipalities, lines, stations and areas in the two regions, the change will bring the two areas affected closer to their regional headquarters.

This, in turn, will permit substantial savings in travelling time, mileage expenses (approximately 25,000 miles a year), and costs of transmitting data over leased circuits, as well as facilitating the deployment and control of staff and equipment.

# ENTRIES WIN ACCLAIM



COVER of the January, 1959, issue of Ontario Hydro News incorporates the figure of the two-headed god, Janus, looking backward to the hydro-electric era (represented by a photo of the St. Lawrence Project) and forward to a nuclear power symbol.



CREDIT FOR the Ontario Hydro News cover design goes to Miss B. J. Drummond (standing), while Miss Isobel Morgan executed the award-winning layout for Staff News.

CONTAINING a cross-section of the best magazine layout and design in Canada last year, *Typography '59* includes entries from two of the Commission's official magazines—*Ontario Hydro News* and *Ontario Hydro Staff News*.

A selection from each magazine appears with 258 other samples of Canadian commercial art in a handsome book printed in English, French and German. This brochure is already being circulated throughout Canada, the United States, Great Britain and the other Commonwealth countries and Continental Europe.

The exhibits were selected by the Society of Typographic De-

signers of Canada from some 1,560 entries.

Credit for the *Ontario Hydro News* design—the cover of the January, 1959 issue of the magazine—goes to Betty Jean Drummond, an artist in the Information Division's Editorial-Graphic Department. The design incorporates the figure of the two-headed God, Janus, to indicate Ontario Hydro's current position on the threshold of the nuclear age.

Chosen from *Ontario Hydro Staff News* was a two-page layout from the June, 1959 issue executed by Isobel Morgan, also an Editorial-Graphic Department artist. The layout was prepared for a feature article on the Robert H. Saunders-St. Lawrence Generating Station mural and its selection by a Canadian consumer magazine as a background for a spring fashion story.

Both Miss Drummond and Miss Morgan are graduates of the Ontario College of Art. Their work appears regularly in the Commission magazine, in various brochures and booklets, and in other institutional and promotional media prepared for Ontario Hydro use.

## OFF THE WIRES

(Continued from page 1)

5 schools, 15 motels, 6 apartment buildings and a 50 per cent increase in supplementary heating. Let's just hope they won't experience the sales resistance encountered by the Scottish Hydro Electric Board. Officials were rather puzzled when an 84-year-old customer's bill amounted to only six cents for three months. Queried, she claimed: "I've nothing against electricity, but I only switch on the light at dusk. It helps me to light my oil lamps."

\* \* \*

DELEGATES AT this year's O.M.E.A. annual meeting could scarcely believe their eyes when they saw Harry Foy, genial manager of the Electric Service League of Ontario, casting his vote during the resolutions debate. But Harry had a perfect right to vote. On February 29, Weston's Town Council appointed him to the local utilities commission to complete the unexpired term of the late C. M. Richardson. The affable Red Seal man was officially sworn in on March 1, duly qualifying him as an O.M.E.A. delegate.

\* \* \*

WE'RE INDEBTED to H. B. "Ole" Mattson, the good-humored manager of Sandwich East Township P.U.C. The utility bills, besides giving customers the bad news on their consumption of electricity and water, include some fabulous and interesting figures on the effects of leaking water faucets. According to the Sandwich utility figures, a tap that leaks (even a tiny, one-eighth-of-an-inch trickle) can waste 108,000 gallons of water a month. That adds to the water bill if you pay by the gallon.

This isn't good sales talk, however, so we'll bring this column to a close. •

## Windsor demand hits new high

Windsor's electrical load is advancing steadily. At 9:28 a.m. on January 18, the city's demand hit a new all-time peak of 81,570 kilowatts, due mainly to increased industrial requirements.

## Weston commissioner dies suddenly

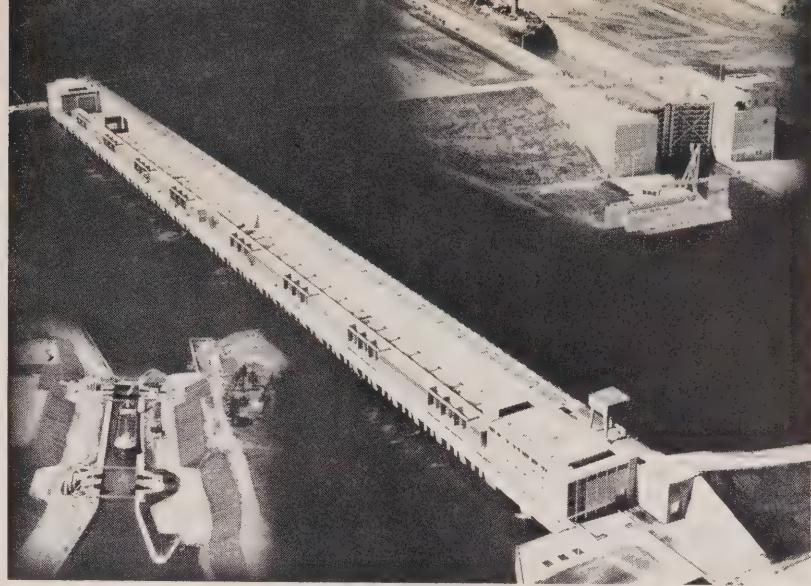
Chairman of Weston P.U.C. in 1959, Charles M. Richardson died suddenly on February 8. The deceased was a member of a well-known Weston district family, and had been in business in that town for more than 30 years. An active Mason, Mr. Richardson is survived by his wife, two sons, a daughter and two sisters.

## Honor Manager's Name

Amherstburg P.U.C. has designated its new substation in honor of Norman E. Wilson, a former utility manager.

## Zurich forms Hydro and water departments

Zurich Village Council has approved formation of two departments to handle Hydro and all water services through a Committee of Council with Councillor Leroy Thiel as chairman and Reeve Lloyd O'Brien and Councillor Harold Thiel as members. Manager Milfred Schilbe has been appointed secretary-treasurer of both departments. Formerly a police village, Zurich was incorporated as a village on January 1, 1960.



## ST. LAWRENCE PROJECT IS JUDGED ENGINEERING ACHIEVEMENT OF YEAR

THE St. Lawrence Project, involving the power and seaway developments on the United States and Canadian sides of the St. Lawrence River, was named as the outstanding civil engineering achievement of the year at the closing session of the national convention of the American Society of Civil Engineers in New Orleans recently.

The Board of Directors of the Society officially confirmed the selection of a jury of engineering magazine editors, which had picked the St. Lawrence Project for the 1960 outstanding civil engineering achievement award.

It is the first award to be made by the Society to recognize an achievement in civil engineering. Henceforth, an award will be made annually to the outstanding civil engineering achievement in the United States.

The St. Lawrence Project was one of 12 nominations made for the award from all parts of the country, involving all types of engineering developments.

Actually, the citation is directed toward the four entities involved in the St. Lawrence Project, the power and seaway projects on both sides of the river. These were built by the Power Authority of the State of New York, the St. Lawrence Seaway Development Corporation (USA), Ontario Hydro, and the St. Lawrence Seaway Authority (Canada).

Each of these entities will receive an appropriate plaque from ASCE at ceremonies to be held at Massena, N.Y., on May 19. Representatives of both Canada and the United States will participate. The ceremonies will be held on the power dam which connects the United States with Canada.

Nominations, made by the directors of the Society in their respective districts throughout the country, were judged in three categories: (1) whether the project demonstrated improved skill in civil engineering; (2) whether the project contributed to engineering progress; and (3) the project's value to mankind. The St. Lawrence Project scored high in all categories.

## Windsor firm gets area office contract

Scheduled for completion in July this year, a new Ontario Hydro area office is now under construction at Essex, Ont., following award of a \$166,655 contract to a Windsor firm. The new electrically heated office and service building will permit amalgamation of the former areas of Harrow, Kingsville, Essex and Windsor. Some 14,800 customers will be served from this central headquarters.

## DOWN OUR ALLEY

(Continued from page 15)

of over 400 was rolled by Alfred Shrubbs, a famous long distance runner. In 1921, Bill Bromfield led the parade of perfect scores with the first 450 score. The Canadian Bowling Association was founded in 1926, and specified sizes of pins, balls and alleys.

Women finally got into the game during World War II. Until that time, bowling alleys had been associated with pool halls, where no respectable woman would set her foot. But, during the war, alleys were cleaned up and women invited in to try their hand at the sport.

The ladies obviously liked the game, for they stayed and bowled even after their men came back from the war. Today, as a result, mixed leagues flourish wherever alleys are available.

And the nightly thunder from Canada's 7,000 bowling alleys would drown out the feeble racket of Rip Van Winkle's legendary bowling match with the little green men of the Catskill mountains. •

## STILL GOING STRONG

(Continued from page 12)

mentary power supply in Streetsville was reconverted to 60 cycles by having the motor generator set re-wound.

Streetsville P.U.C. members are very proud of their historical

## HYDRO PURCHASES TWO HELICOPTERS

THE purchase of two helicopters for its expanding aerial operations throughout the province has been announced by Ontario Hydro.

The machines—a used Sikorsky S-55 and a Bell 4702—are expected to save Hydro approximately \$65,000 in brush spraying and surveying costs this year.

The large Sikorsky can carry a payload of seven passengers or 1,600 pounds of cargo in addition to its crew. First job for the 100-mile-an-hour craft will be spraying brush along 4,000 acres of transmission line right-of-way this summer in Northwestern Ontario.

The immediate need for the new Bell aircraft is for survey work at the new Little Long Rapids power project on the Mattagami River, about 40 miles north of Kapuskasing.

When the brush spraying program is completed in the fall, the Sikorsky will be assigned to survey work, and the new Bell will be transferred to transmission line patrol and other work.

With the two additions, Hydro will have a fleet of eight helicopters. It was the first electrical utility in North America to own and operate a helicopter fleet. •

## A TRIBUTE TO A GOOD CITIZEN

(*The Canadian Statesman, March 3, 1960*)

ON Tuesday night in Toronto, his friends and working colleagues in Hydro affairs paid a well deserved tribute to W. Ross Strike, Q.C., who this year celebrates 15 years as a Hydro Commissioner—a record of service only beaten by Sir Adam Beck.

We, his neighbors in his adopted home town, have known of Ross Strike's achievements and contributions for a much longer period. This community has been enriched by his presence among us, and the general welfare of Bowmanville has been helped because of his work for his church and municipality.

We join in our congratulations to an outstanding citizen, a man who has reached great heights in an important and complicated field outside of our town. Yet, one who continues to interest himself in our local problems, and still renders great assistance in helping us to solve them. He deserves all the honors that can be heaped upon him. He is truly a fine citizen of Bowmanville and of the Province of Ontario.

little power plant located within the original stone walls of the old flax mill, even though it is overshadowed by an adjoining modern pumphouse and filtration plant.

Times have changed in Streetsville. This community, which celebrated its centennial in 1959, has started to burst at the seams. The rapid growth began in 1950. The village, which had remained almost static for many years, now has a population of nearly 5,000.

This growth is reflected in the increasing power load and number of customers served by Streetsville P.U.C. When Superintendent Joe Mason was appointed in 1954, there were some 605 domestic, commercial and industrial customers, and the total load was approximately 1,300 kw. Today, just a little over five years later, there are approximately 1,500 customers and the load is now over 3,000 kw. •



ONTARIO HYDRO

NEWS

MAY, 1960

# Ontario Hydro News



# ONTARIO

## THE COMMISSION

JAMES S. DUNCAN, C.M.G., LL.D.  
Chairman

W. ROSS STRIKE, Q.C.  
First Vice-Chairman

HON. ROBERT W. MACAULAY, Q.C., M.P.P.  
Second Vice-Chairman

LT.-COL. A. A. KENNEDY, D.S.O., E.D.

Commissioner

D. P. CLIFF  
Commissioner

J. M. HAMBLEY B.Sc.  
General Manager

OTTO HOLDEN, B.A.Sc., C.E., D.Eng.  
Chief Engineer

ERNEST B. EASSON, B.Com.  
Secretary

## EDITORIAL BOARD

JAMES S. DUNCAN, C.M.G., LL.D.

DR. V. S. WILSON  
President, O.M.E.A.

HARRY HYDE, P.Eng.  
President, A.M.E.U.

J. M. HAMBLEY B.Sc.

OTTO HOLDEN, B.A.Sc., C.E., D.Eng.

ERNEST B. EASSON, B.Com.  
JAMES A. BLAY  
BOYD L. GRAHAM

Editor - BOYD L. GRAHAM

SUBSCRIPTION: \$5.00 PER YEAR

Published by  
the Information Division of  
The Hydro-Electric Power Commission of Ontario  
620 University Avenue, Toronto.

Authorized as second class mail, Post Office  
Department, Ottawa

Material published in Ontario Hydro News may  
be reprinted without permission.  
Most photographs are obtainable on request.



Member of the Canadian  
Industrial Editors Association  
and the International Coun-  
cil of Industrial Editors.



MAY, 1960

VOL. 47, NO. 5

## CONTENTS

PAGE

**Blossom Time** ----- 2

Niagara's orchards are a May attraction

**They're in Hot Water** ----- 4

Municipal utilities join Ontario Hydro in  
spirited promotion programs

**It Happened in Pakistan** ----- 8

Canadians active in Asian project

**It's for the Birds** ----- 11

A touch of avian humor

**In Canada's Capital** ----- 12

Ontario Hydro's Eastern Region expands its  
operations

**Talking Talents** ----- 18

Youthful orators compete in finals of Ontario  
Public Speaking Contest

**Paisley — in the heart of Bruce** ----- 22

Georgian Bay community still retains its rural  
charm

**Along Hydro Lines** ----- 26

Capsule review of utility operations and news  
of interest

## COVER "SHOTS"

MAY is the month of blossoms, birds and the out-of-  
doors, so this issue carries a little of the spring atmos-  
phere—from the front cover to the back.

# HYDRO NEWS

## Cottagers Must Pay Their Way

ONTARIO is literally dotted with picturesque lakes and rivers, a fact that is largely responsible for the Province's flourishing tourist industry. While many of our summer cottage owners and a considerable segment of our great army of fishing and hunting enthusiasts pride themselves on being a particularly hardy breed, they have, nevertheless, displayed a ready enthusiasm for the benefits and convenience of electricity.

This demand for summer electrical service has involved the extension of distribution lines and associated system facilities under extremely difficult terrain conditions, in many cases, and in remote locations where customer density was at a minimum.

A careful consideration of all the factors involved has produced the regrettable but unavoidable conclusion that Ontario's summer cottage owners have not been paying their way, insofar as Hydro rates are concerned.

In its province-wide program of expansion, the Commission, like every other utility or organization, has had to face rising costs of labor and material. In virtually every instance, business enterprise has been forced to increase customer prices to meet these cost advances. Increased energy use by many of the Commission's customers has offset the rising costs, but not in the predominantly summer areas where revenues have fallen far short of the actual cost of providing services.

In assessing the situation fairly, it is imperative to realize that capital charges on lines and equipment, as well as operation, maintenance and administration expenses are major items in the cost of supplying summer service—the cost of power being of lesser importance. Ontario Hydro's electrical facilities in these summer areas are in operation for 12 months each year, but it is a recognized fact that a preponderant number of cottagers use their services for a very short period each season, resulting in a very low average kilowatt-hour or energy consumption in these summer areas.

Since 1953, when the last change in the rural rate structure was instituted, rural farm customers in

(Continued on page 26)



SOUTHERN ONTARIO basked in warmer weather, but snow and ice still held sway along the Mattagami River in Ontario's northland when this aerial downstream view of Little Long Rapids was recorded during April. Located about 40 miles north of Kapuskasing, this section of the river is the site of another Ontario Hydro generating station (see Ontario Hydro News—April, 1960). Scheduled for operation by the winter of 1963, it will have a tentative initial capacity of 114,000 kilowatts. (Photo by Cam Warne).



THESE FRAGRANT PEACH BLOSSOMS, which lend their beauty to the Niagara scene these days, are the forerunners of a bountiful harvest.



FRUIT FARMING has been one of the basic industries of the productive Niagara Peninsula for many decades.

# Blossom Time

“How fairer seems the blossom than the fruit . . .”—in May, when it's Blossom Time in the Niagara Peninsula.

And yet the pink and white blooms along the sunny slopes of the Niagara escarpment are just the prelude to a bountiful harvest of grapes, cherries, plums, pears, peaches and other fruits—a harvest which last year reached the staggering total of approximately 135,000 tons of fruit, with an estimated value of more than \$10 million.

Traditionally, Niagara's blossom season has been an informal week for thousands of families from both sides of the international border who came to Niagara solely to see

the blossoms at their colorful best.

In 1959, however, the progressive people living in the heart of these fabulous Ontario fruitlands—which extend from Fort Erie northward to Hamilton—initiated a week-long program of festivities to salute the blossoms. Niagara's second jolly Blossomtime Festival began on May 14 this year with an impressive ceremony, “Blessing the Blossoms,” at Niagara Falls, Ontario. And it brought out great throngs eager to greet this annual promise of a yield that will surpass even last year's abundant crop.

Many motor parties, too, will “follow the blossoms”—especially on weekends—as spring advances

northward to the apple orchards of Georgian Bay.

Another famous spring celebration is Ottawa's Tulip Festival, held usually from mid-May to the end of the month, when hundreds of thousands of visitors flock to the Canadian Capital to see the colorful panorama of more than a million tulips in the gardens surrounding many of the Federal Government buildings and along the parkways and the Rideau Canal boulevards.

Hamilton's Royal Botanical Gardens are ablaze with color during May as different varieties of tulips come into bloom, followed closely by a display of iris that rival orchids in their delicacy and beauty.

MOTORISTS come to the Niagara district from many distant points as the orchards break into bloom.



PRESENTED by the Queen of Holland and Dutch growers, more than one million bulbs set Ottawa ablaze during the Tulip Festival.



*they're  
in  
hot  
water*



## AND THEY LIKE IT

“You install this type of water heater in your houses,” energetic Vic Beacock told a Toronto Township builder, “we’ll pay you the installation cost, and the home buyer can rent or purchase the tank from us on easy monthly payments.”

It was just another example of the up-to-date sales promotion campaigns being carried out by municipal utilities across Ontario, and which are paying off in booming electric water heater sales and rentals.

Promotional campaigns and installation programs vary from utility to utility, but the end result is the same wherever promotion plans are launched. “From December 15, 1958, when we launched our program,” says Toronto Township Hydro’s Vic Beacock, “until March 30, 1960, the utility installed some 766 water heaters.”

Owen Sound Public Utilities Commission reports equally successful results with its campaign. Secretary-Manager Robert Butter

said recently that the utility installed 643 units on a rental basis, and sold 145 (a total of 788) between August 11, 1958, when the program was launched, and December 31, 1959. These figures include several 150-gallon and larger units.

Owen Sound P.U.C. offers three plans to its customers: the rental plan, or purchase on either a cash or a time payment basis. Representatives of this progressive utility are firmly convinced that a good

*(Continued on page 6)*

## These Utilities Know Promotion Can Pay Big Dividends

by Gary Smith



MUNICIPAL UTILITIES like Toronto Township Hydro Commission have had notable success with their water heater promotion programs—largely because of sales-minded employees like Consumer Service Supervisor Munroe Beatty and Clerk Faie Ricker of the utility staff.

ONTARIO HYDRO'S water heater display has attracted public interest. An electric computer tells this young couple the proper type and size of heater required for their home to ensure an adequate hot water supply.

ENERGY PURCHASES in 1959 showed a 6.56 per cent increase over the previous year, Oshawa P.U.C. reports. Here General Manager George Shreve (left) discusses the beneficial effect of the utility's water heater promotion program on the Oshawa system's load figures with Assist. Mgr. Bruce Annand.

"field man" is an essential in a successful water heater campaign.

In the eastern end of the province, Brockville P.U.C. reports up to 30 new heaters a month are being installed regularly, and Manager Henry Little's earlier prediction that 1959 would see 300 new installations proved a conservative one.

A rental program makes good sense—to both customer and utility—for several reasons. The customer gets installation, maintenance, service and tank replacement, when necessary, all in exchange for a flat monthly charge. This charge also includes the cost of electricity, and the low flat rate guarantees the customer a fixed monthly cost. Many utilities feel that the rental plan is one of the best means of countering local gas competition.

Many utilities, like Oshawa P.U.C., Toronto Township Hydro, Scarborough P.U.C., and others, are achieving particular success with a rental program. These are patterned to a large extent after the one adopted by Ontario Hydro, but modified to meet local conditions.

From April 1, 1959, until March 31, 1960, Scarborough P.U.C. installed 1,733 rental units. The utility backs its campaign with ads in five local newspapers and in the special suburban issues of one of the city's three dailies. Bill stuffers, strategically placed ground signs and truck cards on its fleet of 50 vehicles give added support. One utility official felt Ontario Hydro's own advertising campaign was effective in boosting the Scarborough program. "It introduces the idea to the reader," he said, "and our own campaign provides the final push."



In Oshawa, the Electrical Contractors' Association of Ontario and the Whitby and Oshawa Plumbers' Association welcomed the rental program after being assured by Oshawa P.U.C. that all new installations and all replacements due to possible tank failures would be performed by the trades concerned.

#### Utilities Participate

In all, 137 Ontario municipal utilities now offer rental water heating service. These utilities supply service to 673,200 domestic customers or some 60 per cent of all municipal domestic customers in the province, including 66 per cent of all existing flat-rate customers.

Gordon M. McHenry, manager of Residential Sales in Ontario Hydro's Sales Promotion Division, points out that this group of 137 utilities includes a large percentage of those utilities who face competition from natural gas in Ontario.

How do such utilities account for their success, particularly,

where they face steep competition?

Ron Starr, manager of Toronto Township Hydro-Electric Commission, says success is a matter of using good sales promotion techniques, of going out after business, and of having faith in the product you're selling. There is a very definite public preference for electrical appliances.

"Take the glass-lined hot water tank for example," says Mr. Starr. "We know it will do a good job and stand up to many years of use. And we don't let any customer tell us that an electric hot water heater won't do as good a job as gas. We recommend to a customer a water heater with a dual element combination that will do the job for him. Proper unit selection and application for complete customer satisfaction is a vital part of our program. Our customers are usually very happy with the results."

Toronto Township actually has three plans designed to meet the needs of all prospective customers. They may buy a water heater for cash, rent one at a flat charge of



BROCKVILLE P.U.C. is another Ontario utility which has actively promoted water heater installations in the past two years. Here Manager H. W. Little (left) and James Shields, sales promotion representative (right), discuss the benefits of an electric water heater with a Brockville customer, Grant McKay. Between March, 1958, and December 31, 1959, a total of 635 new heaters were installed in Brockville homes.

PERSONAL CONTACTS with potential customers and builders by Supervisor Munroe Beatty and other utility representatives have proved effective in promoting water heater installations and increasing energy sales generally, Toronto Township officials state.

\$1.86 per month, or purchase one on a convenient time payment plan. If the customer chooses the latter method he may pay for the unit on his regular bill over a period of two years, and at a reasonable interest rate.

#### Direct Contact

Many utilities are expanding their programs to cover the new housing field by direct contact and follow-up with contractors and builders. After Oshawa P.U.C. brought its program to the attention of local contractors by letter and printed brochure recently, a number of the contractors, who had been dealing previously with a competitor, ordered electric water-heater installations for new homes they were building in Oshawa.

Much the same sort of thing has happened elsewhere.

Toronto Township Hydro, whose whole water heating campaign is being handled by Vic Beacock, formerly Ontario Hydro's

(Continued on page 21)





## IT HAPPENED IN PAKISTAN

Many former Ontario Hydro engineers and technicians at work on Warsak Dam—an important unit of Canada's Colombo Plan contribution to Asia

by DON CARMICHAEL



VIEW of the Warsak dam and powerhouse from the downstream south bank of the Kabul River in January this year as removal of the lower cofferdam (left centre) neared completion.

A MONUMENT to Canadian engineering skill and patience controls the waters of the mighty Kabul River in the mountains of northern Pakistan.

It is the Warsak Dam, part of a giant hydro-electric and irrigation project begun more than 4½ years ago by Canada under the Colombo Plan and now nearing completion.

The development is of special interest to Ontario Hydro because many of the Canadian specialists were formerly associated with the Commission's engineering and construction staffs.

A team of about 150 Canadian engineers and technicians directed construction of the 650-foot long, 270-foot high concrete gravity main dam and associated works under trying conditions and with little advance planning.

But Canadians and native workmen stuck with it, and the \$65,000,000 project will be operating at its initial capacity of 160,000 kilowatts early this summer. The development will irrigate some 100,000 acres of land, enabling the settlement of 5,000 farm families,



and provide an ultimate 240,000 kilowatts of power for industrial enterprise.

In addition to the dam, the mammoth task involved the removal of approximately a million cubic yards of rock, boring of an almost 3½-mile irrigation tunnel through the side of a mountain, and creation of a headpond some 30 miles long.

### Two Units In Service

Construction-wise, two of the 40,000-kilowatt units have been started up, and the third and fourth are to be finished before the end of May.

Still to be built are transmission facilities into the site, located approximately 19 miles from the City of Peshawar and 15 miles from the railway station at Jamrud Fort, control point for the entrance to the historic Khyber Pass.

This work is being handled by another firm, and may not be finished until some time in the early summer.

The Canadian staff and their wives and families have almost all

the amenities of home, plus native servants.

Boasting paved roads, the "Colony" is located about three miles from the site. Here the Canadians live in Spanish-type homes and apartments with spacious lawns and gardens.

They keep cool with air conditioners, and have a commissary selling Canadian food. At their own club, they have a swimming pool, tennis courts and, possibly, the only bowling alleys in the Far East.

The workmen are accommodated in modern quarters for single and married men provided by Canada's Colombo Plan, which is bringing a knowledge of the capabilities and products of Canadian industry to the peoples of south and southeast Asia.

### Among Largest Projects

Canada supplied the engineering "know-how" and the equipment for the Warsak project, which is one of the largest carried out by Canada under the Colombo Plan. Pakistan provided the

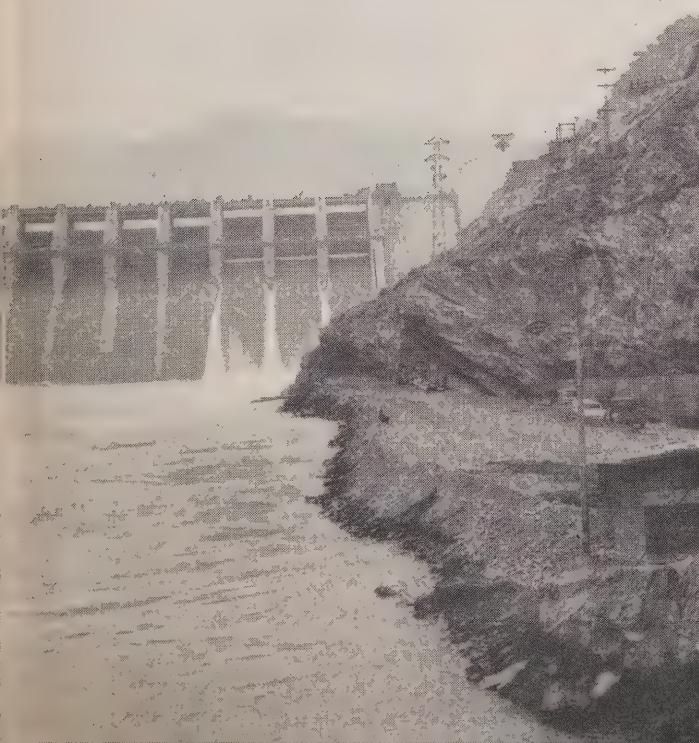
labor and looked after all local costs.

Frequent landslides, heavy rains, sandstorms, scorching heat and even cold hampered the work. The fasting, feasting and work pace of 8,000 native workmen recruited from local tribes also slowed things down.

After some time, says Ken Blakeman, former design and planning engineer with Hydro's Generation Construction Department, and now construction engineer for Angus Robertson Limited, the general contractors, the Canadian staff realized Rudyard Kipling was right when he wrote that the natives couldn't be hustled. Thus they adopted a more realistic work schedule: the pace was set "by the Pakistani themselves."

Construction Manager Corey J. Robbins, another prominent figure in Hydro's Construction Division for many years, feels the Canadians "deserve an awful lot of credit under the circumstances." And some of the credit is due to the "knowledge and training" gained

*(Continued on page 10)*



WORK was just beginning on the important Pakistan hydroelectric and irrigation development in January, 1956, when this photograph looking upstream to the project site was recorded.

working on various Ontario Hydro projects.

Looking back, Mr. Blakeman says it was necessary to overcome the worst rock conditions and a novel labor situation.

The workmen, he said, were a "bit wild and woolly, being more accustomed to shooting than shovelling."

Initially they were recruited through tribal chieftains known as Maliks, and the Maliks, rather

than the men themselves, were paid according to the custom established by the British in the old days.

In many instances, however, it was found the Maliks were not paying the men, so they were paid directly, "much to the Maliks' disgust," Mr. Blakeman states.

Work of a simple nature was sublet to the Maliks, wherever possible, and it was "amazing" to see the amount of material that could

be moved in a day with several hundred mules.

He recalls, with amusement, that, to press their claims for extras or increased rates, these "subcontractors" used to roll up to the office in a "beat-up old jalopy, armed to the teeth and accompanied by a half-dozen tribesmen for a bodyguard."

### Month-Long Fasting

A month-long period of religious fasting, known as Ramazan, was a problem, because the followers are forbidden to eat or drink between sun-up and sundown, and "production on the afternoon shift dropped to a pretty low level."

This is followed, he says, by a two-day festival of feasting, after which "it takes them a week to get over their indigestion before they can work again."

Rainfall has been a problem—even though it is only 13 inches a year—because nearly all of it comes during a two-week period in the fall. The temperature ranges from a high of 120 degrees down to a low that necessitates warming fires to ward off the chill.

After working on Warsak, says Mr. Blakeman, he realizes how "smoothly and efficiently" Hydro functions.

Another former Ontario Hydro engineer, Floyd Rodman, as Resident Engineer with Canada's Colombo Plan Administration for the Warsak development, has been closely associated with both Robbins and Blakeman in the important project. Mr. Rodman formerly held important engineering posts at such well-known Commission projects as DeCew Falls, near St. Catharines, and Ear Falls on the English River. He joined the Colombo Plan Administration technical staff some five years ago, and was subsequently designated to co-ordinate engineering operations when the Warsak project was inaugurated.

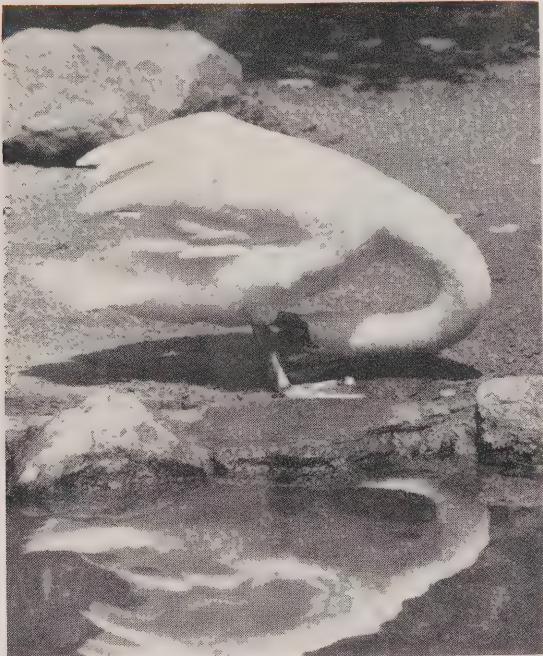
*(Continued on page 31)*

AS DESIGN AND PLANNING ENGINEER of Hydro's Generation and Construction Department, Ken Blakeman (right) and Doug. Johnson, senior project engineer, Station Construction, were prominently associated with the installation of a novel retractable bridge over the Cornwall Canal in the early stages of the St. Lawrence Power Project. Mr. Blakeman left the Commission in 1955 to go to Pakistan.



ANOTHER FORMER Hydro construction engineer, who has been a key figure in the Warsak project, is Corey J. Robbins (right). This photo of Mr. Robbins and John Stirling was taken at Hydro's Pine Portage project on the Nipigon River in 1949, where Mr. Robbins was Assistant General Superintendent of Construction for several years.

# IT'S FOR THE BIRDS



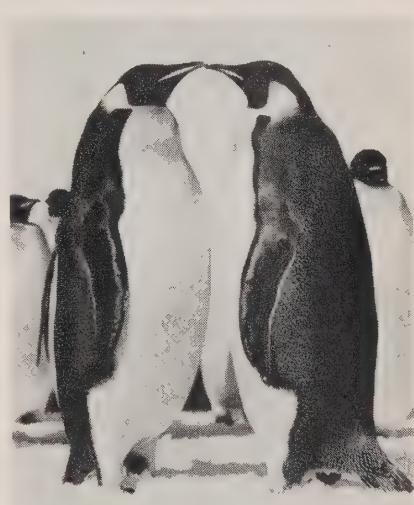
"He has been 'bugging' me for weeks."



"You wouldn't have a hangover, Elmer, if you'd come home at a decent hour."



"If she's his wife, I'm a monkey's uncle."



"Let's say we get away from this mob, Abigail."

"Hey, kids, I'm not on an expense account!"

IN

W H E

**“W**HAT have we got?” echoed A. M. Pedersen, hoisting a politely incredulous eyebrow at his visitor.

“Why, we’ve got everything!”

Mr. Pedersen (the A. is for Axel, but he’s Alex or Pete to hundreds of friends after 30 years with Hydro) is Manager of the Eastern Region, and probably its No. 1 fan.

“What we like is the variety,” he said. “You wouldn’t call this primarily a generating region, or a rural region, or an industrial region. Eastern is all these at once.

“In my opinion, we have about the best mixture and balance of all Hydro’s different activities that you could find in any region.”

In power generation, Eastern ranks second only to Niagara. It may not have the Falls, but its 10 stations supply about one quarter of Hydro’s total generating capacity. And since it also co-ordinates delivery of almost all of the Commission’s purchases, the region, in effect, handles over a third of Hydro’s total power requirements.

Many people visiting the rugged woodlands of the north, the rich farmlands of the rolling country and valleys, think of the region as top-notch farming, fishing and tourist country. So it is.

Its 58,000 rural customers are scattered over more than 11,000 scenic square miles, and Eastern likes to point out that one of their 11 rural operating areas, Cobden, is more than five times the size of the entire Niagara Region.

# CANADA'S CAPITAL

**ONTARIO HYDRO'S EASTERN REGION IS FLEXING ITS MUSCLES**

by JIM FOSTER

But while there's lots of elbow room in the Eastern Region, its headquarters are in Ottawa, Canada's capital and Ontario's third largest city. Ottawa is the largest of its 42 cost-contract municipalities.

It hasn't the heavy industrial concentrations of say, Toronto or West Central Regions, but 25 direct industrial customers in the region provide a load in the neighborhood of 120,000 kilowatts. Most observers are sure the St. Lawrence Seaway will attract other industries.

The L-shaped region is partly bounded by two of Canada's mightiest rivers, the St. Lawrence and the Ottawa. On its southern edge, it meets the Thousand Islands at Gananoque to the west, and extends past Cornwall and up to the Quebec border on the east. Its northern limits stretch along the Ottawa well beyond the atomic centre of Chalk River.

It has cities and subdivisions, towns and back-country hamlets, deer country and the House of Commons. To many Hydro people, as Mr. Pedersen declares, it has everything.

In the last year or so, a slogan has been gaining popularity around the regional and area offices — "Eastern, the Leader Region."

Again, Mr. Pedersen, what have you got?

"I think the idea is that the staff want this to be the leader region in every way possible. They take



AFTER THREE MOVES, the Eastern Region staff proudly settled down in the new Ottawa headquarters early in 1957, when the two-storey building was officially opened.

pride in the thing they have that other regions might not have."

One of these is a plaque that greets people as they enter the three-year-old regional office on Ottawa's Richmond Road. The National Safety Council presented the region with its award of merit for the operation of more than a million man-hours without a disabling injury in 1958.

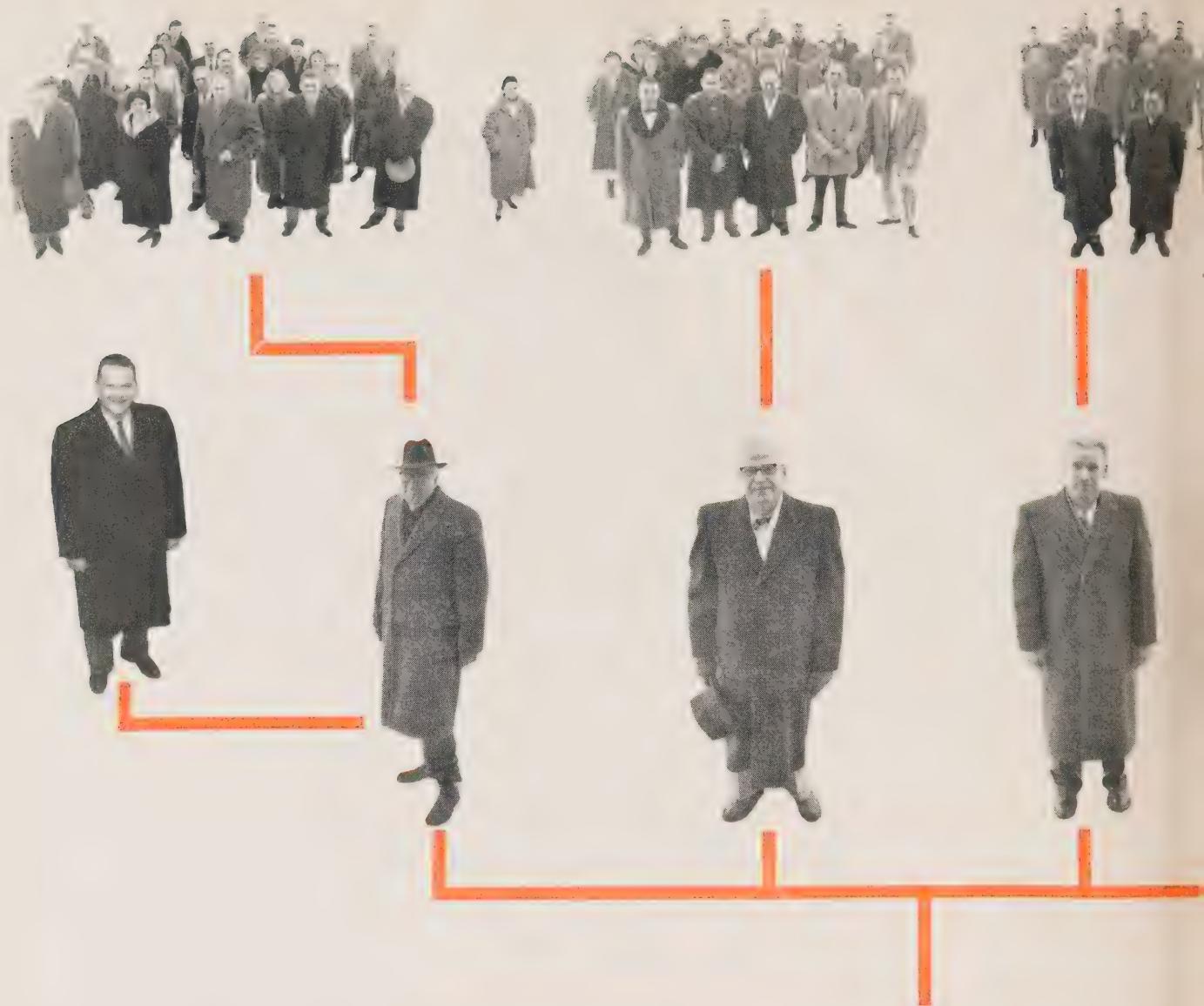
It is the first such award to a Canadian public utility.

Eastern came close to repeating the performance last year, but a man slipped and fell outside the

station where he was working. His 24 hours off the job forced the region to start its safety record from scratch again.

Eastern's safety campaign went into high gear in 1951 after one man was electrocuted and four others burned in an accident. The region cleaned up as many potential accident factors as possible, then launched an educational program and written examinations for linemen, which have since been adopted by other regions.

"There's no doubt that this pro-  
(Continued on page 14)



gram and our policing has paid off," says Safety Officer G. R. (Dick) Shannon.

Another first for Eastern Region is its new "good house-keeping" campaign. A safety officer and the operations engineer pop up unannounced at work locations and buildings in all the areas to inspect things like neatness, efficiency of work conditions, and care of equipment. At the end of the year, the area with the best marks gets an award.

"Some people were dubious about the idea at first, but now they want to know how they rate as soon as the inspection's over,"

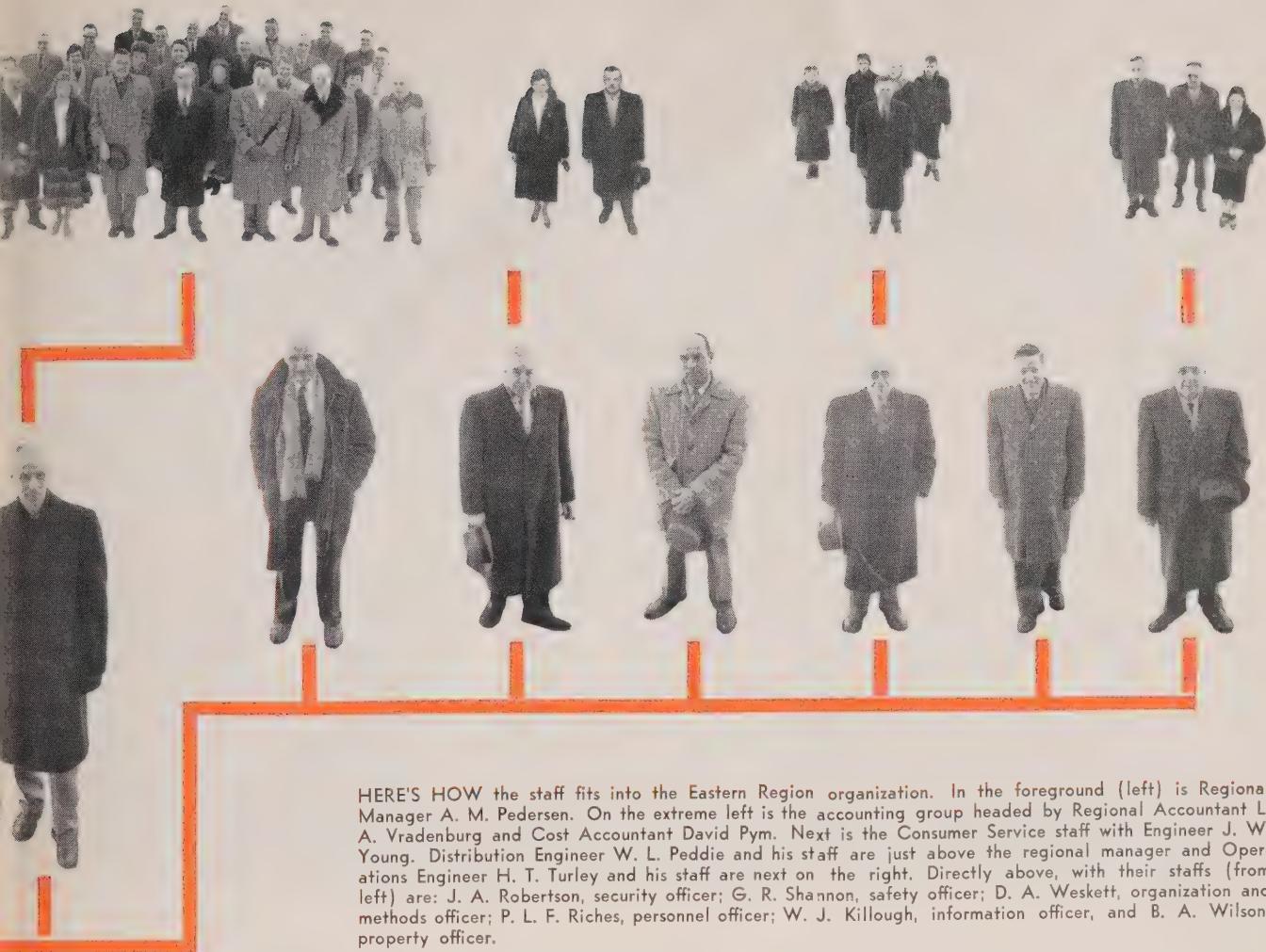
said Mr. Pedersen. "The results are noticeable already.

"It's like the banking system, where an auditor can turn up any time to check the books. How many bankers ever go wrong?"

Eastern has initiated an orientation course for supervisors. They are divided into four groups of almost 20 apiece, two meeting in Renfrew and two at Cornwall, so that each supervisor has 12 meetings, one every two weeks.

Mr. Pedersen explained: "To have all work integrated, everybody must know what the other fellow is doing. Our department heads outline their duties and





HERE'S HOW the staff fits into the Eastern Region organization. In the foreground (left) is Regional Manager A. M. Pedersen. On the extreme left is the accounting group headed by Regional Accountant L. A. Vradenburg and Cost Accountant David Pym. Next is the Consumer Service staff with Engineer J. W. Young. Distribution Engineer W. L. Peddie and his staff are just above the regional manager and Operations Engineer H. T. Turley and his staff are next on the right. Directly above, with their staffs (from left) are: J. A. Robertson, security officer; G. R. Shannon, safety officer; D. A. Weskett, organization and methods officer; P. L. F. Riches, personnel officer; W. J. Killough, information officer, and B. A. Wilson, property officer.

problems, so the supervisors learn how they can best fit in their own work with other people's."

Since last August, Eastern has led the regions in area work standards, the measurement of area line crew performance.

Another first—for the Region, for Ontario Hydro and for all Canada—will be NPD, the country's first nuclear-electric station, now under construction near Des Joachims on the Ottawa River.

Scheduled for initial operation next year, the 20,000-kilowatt plant will boost the region's generating capacity to 1,726,550 kilowatts.

Of the region's 10 existing sta-

tions, the best known are the big projects in Hydro's post-war drive to keep ahead of power demands—plants like Des Joachims, Chenaux, Stewartville and, of course, the giant Robert H. Saunders-St. Lawrence G.S.

They've stolen the limelight from smaller plants, veterans that grew up with Eastern Ontario and are still running efficiently.

For example, there's little Galetta Generating Station on the picturesque Mississippi near Arnprior. Hydro bought it in 1929 from Galetta Power and Milling Co., owned by lumber king M. J. O'Brien.

Its 53-year-old generators still have a capacity of 800 kilowatts, and operators' logs dating back to 1910 show that little has changed except that Galetta is part of the Hydro system. An ingenious and economical shut-off system, rigged mainly from used car parts, now permits it to be controlled from Stewartville when the operator goes home at night. In addition to Galetta, High Falls, Merrickville and Calabogie are also remotely controlled.

Galetta is a favorite starting place for operators-in-training because so many of its moving parts

(Continued on page 17)



AMONG the 10 generating stations in the region are the 372,000-kw. Des Joachims plant on the Ottawa River (above) and the Robt. H. Saunders-St. Lawrence Generating Station.



BOUNDED by two of Canada's largest rivers, the Eastern Region covers an area of more than 11,000 square miles, embracing 42 cost-contract municipalities, including Ottawa.

can be seen while it's running.

Its most recent graduate, Bob Doraty, hopes for a career in thermal generation with Hydro. His eventual goal after little Galetta-Lakeview Generating Station, west of Toronto—the world's biggest thermal-electric project.

These are the other generating stations in the region:

- Des Joachims, Ottawa River, in service 1950, capacity 372,000 kw.

- Chenaux, Ottawa River, in service 1950, capacity 117,000 kw.

- Chats Falls, Ottawa River, in service 1931, capacity 164,000 kw.

- High Falls, Mississippi River, in service 1920, capacity 2,450 kw.

- Barrett Chute, Madawaska River, in service 1942, capacity 42,000 kw.

- Calabogie, Madawaska River, purchased 1929, capacity 4,400 kw.

- Stewartville, Madawaska River, in service 1948, capacity 63,000 kw.

- Merrickville, Rideau River, purchased 1949, capacity 900 kw.

- Robert H. Saunders-St. Lawrence River, in service 1958, capacity 940,000 kw.

Before the nine regions were established in Hydro's 1947 reorganization, Chats Falls was the only big plant within Eastern's present boundaries, and it came under Toronto.

Eastern was the last region to settle down.

At first the regional office was a single room in Toronto's Bailey Building. The Operations Section moved to Ottawa in the summer of 1947, but it was April, 1949, before the first real regional office was established on Sparks Street. Since then it has moved into larger quarters twice.

Stewartville, Des Joachims and Chenaux were being built in those days. With the shortage of men and materials during the war, the region also faced a big backlog of line-building and other service to customers.

"This part of the country was 'way behind as far as rural service was concerned," Mr. Pedersen said. "After the war things started to hum, and we had to recruit a lot of new staff."

In 1948, Hydro supplied power to 29 municipalities in the region,

with a total of 39,475 customers. Now there are 42 Hydro municipalities and some 115,000 customers. Only two municipalities in the region—Cornwall and Pembroke—receive power from private companies.

Twelve years ago, Hydro supplied electricity directly to 10 industrial customers in the region. Now there are 25 with a load in the neighborhood of 120,000 kilowatts. Among the largest: Atomic Energy of Canada Ltd., Canadian Industries Ltd., Howard Smith Paper Mills and Dominion Magnesium Ltd.

But the greatest growth has been in rural electrification. In 1948, Hydro served 18,923 rural customers over 3,094 miles of line. Now there are about 58,000 customers and some 6,606 miles of line.

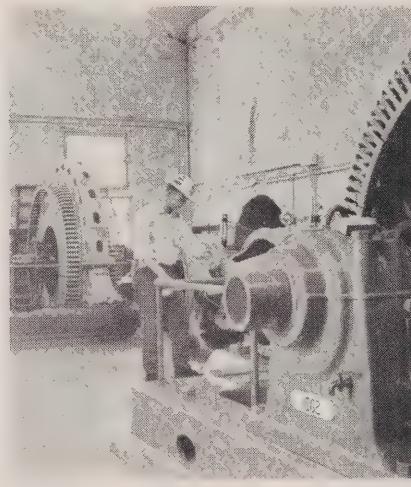
Last year 182 miles of line were added, and the region will probably receive as many requests this year. Electricity has become particularly important in dairy farming, backbone of the region's agricultural operations.

Managers of the 11 rural oper-

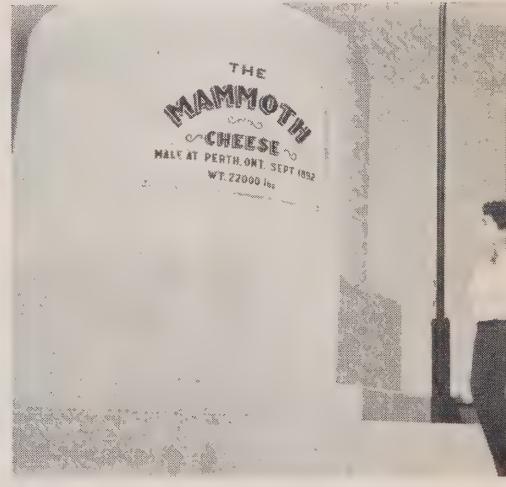
(Continued on page 31)



MEMBERS of Eastern Region's accounting staff, Mrs. Vi. Blondeau (standing) and Mrs. Audrey Last, check punched paper tapes from the electronic data processing equipment.



THESE 53-year-old generators in the tiny Galetta G.S. on the Mississippi River present a striking contrast with the streamlined equipment in the region's new plants.



SYMBOLIZING Eastern Ontario's important dairy farming operations is this replica of an 11-ton cheese at Perth, which was displayed at the Chicago World's Fair in 1893.

# TALKING TALENTS

**Boys hold edge over girls in Ontario**

**Public Speaking Contest finals**



**THAT RABBIT'S FOOT** David Scott is holding in his right hand may have helped him to win top honors for his prepared speech in the secondary school finals of the 1960 contest.

**ELEMENTARY SCHOOL WINNERS** receive their trophies from W. Ross Strike, Ontario Hydro's first vice-chairman. From the left are David Pearce, Guelph, who placed 2nd; Mr. Strike, Susan Florian, R.R. 2, Newbury, 1st, and Julia Williamson, North Gower, 3rd.

**I**N the battle of sexes, men always grant, albeit a trifle grudgingly, that women can out-talk them anytime.

Girls gain a few extra weeks' practice as babies, and from then on they usually manage to have the last word as well. Small wonder then, that female competitors in a public speaking contest are odds-on favorites when it comes to winning prizes.

But in the 38th annual Ontario Public Speaking Contest this year, open to elementary and secondary school students throughout the Province, the boys—not the girls—walked away with six of the nine top awards.

In all, more than 100,000 students entered the contest at local school level. Of these, 53 worked their way through county and district contests to the finals, which were co-sponsored by Ontario Hydro and the Ontario School Trustees' and Ratepayers' Association. The local contests were sponsored by municipal electrical utilities.

Held in Toronto April 19 and 20, the finals coincided with the



100th annual convention of the Ontario Education Association, of which O.S.T. & R.A. is a branch. And the subject of all the speeches: Education, of course.

The boys may have captured two-thirds of the available awards, but they made their most substantial gains in the secondary school category.

In the elementary school contest, only one of the three awards went to a boy, and he was sandwiched between the two girls who placed first and third. Or, as W. Ross Strike, first vice-chairman of Ontario Hydro, commented before presenting the awards, "Isn't it the truth? A lady has the first word and the last, and the poor male is caught in the middle."

The lady who had the first word—and the best speech—was 13-year-old Susan Florian, of Newbury. She is in Grade VIII at S.S. 2, Mosa Township, a one-room school near Glencoe. She credited her complete lack of nervousness during the finals to half of an old clothes peg.

Susan held the weather-beaten good luck charm while she was

making her prize-winning speech. "I found it the day before I came to the finals," she said, "and it looked as if it might be better to hold than the folded piece of paper I'd held during my other speeches."

David Pearce, of Guelph, was the "male in the middle", who came second, and Julia Williamson, of North Gower, placed third.

#### Trip to Niagara Falls

Winners in the elementary school contest received both cash prizes and engraved cups. First prize was \$75, a large cup for the winner's school and a small cup for himself; second prize was \$50 and a small cup; third was \$25 and a cup. All finalists received a scroll of merit and a day-long trip to Niagara Falls. As guests of Ontario Hydro, they toured the Sir Adam Beck-Niagara Generating Station No. 2; tried out their box cameras at the Falls, and bought souvenirs for their school chums and families back home.

Shirley Roberts, of Willowdale, deserves honorable mention. Only 10 years old, she became the

youngest finalist in the elementary school contest by out-talking 22,180 other contestants from 283 elementary schools in Metropolitan Toronto. She came to Canada from England with her parents three years ago, and is now in Grade VI at Finch Ave. East School.

Within three months, the self-assured youngster has made two appearances on CBC's "Tabloid": once to talk about her pet groundhog, and once to chat with Max (Rawhide) Ferguson about her public speaking prowess.

On the same program, John O'Leary interviewed Savario Pagliuso, 18, of Windsor, who placed second in the impromptu speech section of the secondary school contest. Savario spoke only Italian until six years ago, when he came to Canada with his parents from southern Italy. Special English courses for new Canadians and understanding teachers at Assumption High School, which he now attends as a Grade XII student, have helped him to learn precise and correct English.

(Continued on page 20)



MR. STRIKE congratulates the winners of the secondary school impromptu speech competition. From the left are: Maurice Coombs, Toronto, 1st; Savario Pagliuso, Windsor, 2nd, and Eddie Den Haan, Alliston, who gained 3rd position.



DURING THEIR VISIT to Niagara Falls, four finalists, Tom Dunlop, Markdale; Tim Ryan, Tarentorus Township; Jean Clendenning, Lively, and Sandra Knight, Clute, listened attentively to a description of the control room of the Sir Adam Beck-Niagara Generating Station No. 2 by Guide Nola Moody.



WHILE TOURING the large plant, three young finalists (from left): Linda Kalapaca, Orton; Shirley Roberts, Willowdale—the youngest elementary school finalist—and Jackie Yallin, Welland, stop to admire a bust of Sir Adam Beck, Hydro's first chairman.

Although he speaks with a soft and attractive accent, Savario has no intention of losing it. "As long as I have an accent," he says, "I have to pay close attention to everything I say. If I lost that accent, I might become sloppy in my speech and find myself saying 'Whatchadoin?' as so many teenagers do now."

#### New Canadians Win

Savario was not the only prize-winner born in a foreign country. First-place winner in the impromptu speech section, Maurice Coombs, a Grade XIII student at Jarvis Collegiate in Toronto, came

to Canada from England 11 years ago, when he was six. He feels that being a sergeant in the Queen's Own Rifles has given him the self-assurance and poise needed to be a successful public speaker.

And Eddie Den Haan, 22, who won third prize, has been speaking English for only 10 years. Now a Grade XII student at Banting Memorial Collegiate in Alliston, he left his native Holland when he was 12 years old. Speaking his adopted tongue from a public platform is not just a sometime hobby with Eddie, who plans to enter the ministry eventually.

The secondary school contest was divided into two sections: impromptu speeches, which allowed contestants only half an hour to study a given subject before speaking for three to five minutes, and prepared speeches five to seven minutes long.

Prizes for impromptu speeches: \$50 for first, \$25 for second, and \$15 for third; for prepared speeches: \$100, \$75 and \$50. First-place winners in both sections received a large cup or shield for their school and a small one for themselves. Runners-up also received small cups or shields, scrolls of merit, and a trip to Niagara Falls as guests of Ontario Hydro.

#### Tribute to Hydro

The contest has been open to secondary school students for only two years. Walter J. Holsgrave, O.S.T. & R.A. president, paid warm tribute at the convention to Ontario Hydro's co-operation with his association. "If Ontario Hydro had not undertaken two years ago to share sponsorship of the contest finals with O.S.T. & R.A.," he said, "we could never have welcomed the participation of secondary school students when we did."

In the prepared speech section of the contest, David Scott, 17, of Port Sydney, came first, and 16-year-old Corey Keeble, of Port Arthur, placed second.

Ursula Chennette, 18, who came third, was the only girl to win in either of the secondary school competitions. A girl of many talents, she teaches piano, ballet, tap and toe dancing in her own studio in Kirkland Lake. The Grade XII student also finds time for drama, debating and public speaking.

Even though the men did take six of the nine awards, and five of those six in the secondary school contest, the age-old pattern held true.

A woman had the last word. ■

—by Joan Allen

## THEY'RE IN HOT WATER

(Continued from page 7)

rural service engineer, has introduced an effective but inexpensive method of bringing its program to the attention of individual customers.

The Toronto Township Commission mails a small questionnaire with its regular bills inviting customers to return the questionnaire if they'd like more information about the size of electric heater units available and their cost. If a customer returns his card, he's contacted, and a service man visits the premises to determine the customer's needs. Arrangements for the improvement of equipment already installed or the sale or rental of a new unit often result. The utility backs up this type of direct mail advertising with regular newspaper and radio spots. It also makes certain that these promotional methods are followed up by direct contacts with individual customers, builders, and contractors.

Gordon McHenry points out that the water heater load has a very marked effect in maintaining and increasing a utility's load factor. The water heater, which consumes more kilowatthours than any other domestic appliance, has a load factor in the order of 70 per cent, achieved as a result of weekend and holiday operation, and because of the large usage during the night.

"The increased sale of kilowatthours is a major factor in effecting and maintaining lower utility rates, since energy may be sold without unduly increasing the utilities' peak loads."

Mr. McHenry adds: "It is this feature which enables a utility, through the sale of more kilowatthours, to maintain or even reduce existing rates in the face of rising costs."

Many of Ontario's municipal utilities know—through experience in promoting electric water heating—that Mr. McHenry's remarks make good sense. ■



THREE WESTERN ONTARIO municipal representatives (standing, left to right): Henry Soutar, Windsor U.C.; H. B. Mattson, Sandwich East Township P.U.C., and D. H. Pope, Sandwich West Township System, discuss utility water heater promotion programs with John Chute, Hydro's Western Region sales superintendent, prior to a gathering of Windsor home-builders.

## COMMISSION'S WATER HEATER RENTAL PLAN

SEVERAL of the 137 municipal electrical utilities who have embarked on a water heater rental program, pattern their efforts on the plan introduced by Ontario Hydro in May, 1958.

Following extensive tests by the Commission's Research Division, a series of standard water heater units was introduced. In providing these units, Hydro recognized that no one particular combination of elements and tank size could do the best job for all homes, since the demand for hot water varies widely, depending upon the size of the family, the number of bathrooms and the use of automatic laundry and dishwashing equipment. To meet today's increased demands for hot water, all units consist of large 40- and 50-Imperial gallon tanks, equipped with various dual-element arrangements, combining abundant storage and fast recovery at a reasonable monthly cost to the customer.

An important phase of this pro-

gram is the emphasis placed on proper unit selection and application to ensure that the customer gets a water-heater installation which will give complete satisfaction.

The Ontario Hydro rental plan offers five standard water-heater units:

- The Economy model consists of a 40-gallon tank with two 800-watt elements. It assures a peak day delivery of 80 gallons of hot water at a monthly charge of \$4.95 (including equipment rental and the cost of electricity), and is recommended for the small household.

- The Standard model: 40-gallon tank with two 1,000-watt elements, assures a peak day delivery of 90 gallons of hot water at a monthly charge of \$5.60, and is recommended for the average household.

- The Standard Fast Recovery model: 40-gallon tank with one 3,000-watt upper element and one 1,000-watt lower element, assures

(Continued on page 32)

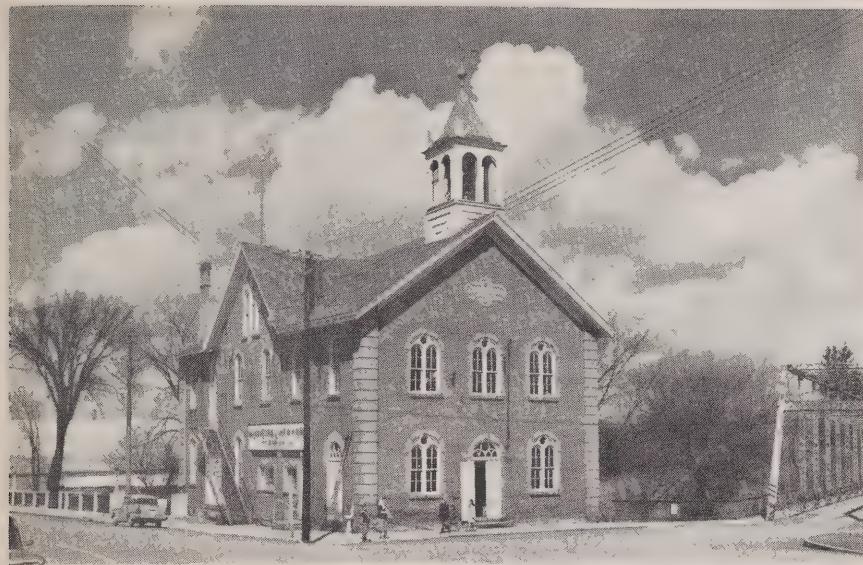


# PAISLEY

*- In the heart of Bruce*

WATER offered the most convenient means of travel when the first settlers arrived at Paisley more than 100 years ago. These tumbling waters still operate two local grist mills.





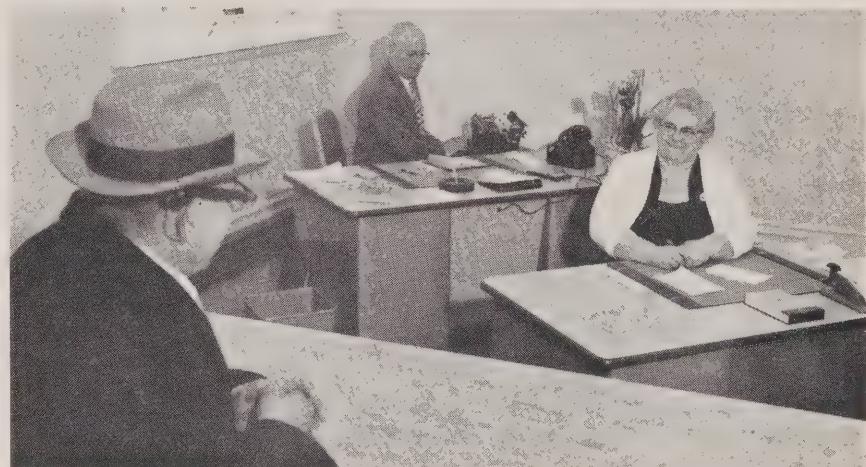
PAISLEY'S renovated Hydro office is located in the community's municipal building. Built almost 90 years ago, it overlooks the point where the Teeswater and Saugeen Rivers join.

by DON WRIGHT

**I**F there was a prize for the most modest community in Ontario, Paisley would merit serious consideration. Yet this delightful village in the heart of the Bruce Peninsula is the service centre for one of the richest farming areas in the province, and it would be difficult to imagine a more picturesque setting. The tumbling waters of the Saugeen and Teeswater Rivers come together at the very base of the town hall, while Willow Creek winds out of the hills and through the village outskirts.

For a time after Simon Orchard and his family beached their raft at this river junction point in April, 1851, it seemed destined to become a major centre of population. Other intrepid settlers followed this first pioneer before the roads were built. Soon grist mills, sawmills, taverns, carriage shops and a foundry were doing a brisk trade. At the height of the boom, the population of Paisley exceeded 2,000, but it levelled off at about 750 many years ago, and it has been relatively stable ever since.

Chance has been largely responsible if Paisley has been slow in regaining its population. It lost



out to Walkerton as the county seat almost 100 years ago, and while time has obscured the circumstances, a single vote is said to have decided the issue. Some point to Paisley's central location in Bruce County, and hint that the decision was influenced more by politics than geography.

#### Railway Came in 1872

The first train puffed into Paisley in 1872 over the new Wellington Grey and Bruce branch of the Great Western Railway, terminating in Southampton. While the tracks brought a period of great prosperity, the virility of the gov-

ernment's railway building policies during the latter part of the 19th Century proved a mixed blessing. Many of Paisley's most valued and enterprising citizens followed the steel as it was pushed into more challenging territory far to the west. Although the community, like many others, has been bypassed by the main highway arteries in more recent times, it enjoys excellent road connections.

Any similarity between Paisley in Bruce and its Scottish namesake, famous for its shawls, is hard to detect, and it seems likely that the name was selected by the

*(Continued on page 24)*



Canadian Post Office Department as being more acceptable than the original appellation — Mud River. Perhaps the post office personnel were guided by the predominance of Scottish names on the letters directed to that part of the province.

At the peak of its vigor, Paisley boasted a giant foundry, a flourishing carpet factory, two woolen mills, a tannery, a meat packing plant, and flour, lumber and planing mills. Hospitality was never neglected, for the second settler established a tavern, and as many as seven hotels at one time catered to the needs of citizen and traveller.

#### Rural Industry

Much of this commerce has long since disappeared, and the real life-blood of Paisley is to be found in the good, rich soil of the surrounding townships. An agricultural society was founded a few years after the first homestead had been hacked from the forests, and a fall fair has been a feature of village life for as long as anyone can remember. Dairying, beef cattle and mixed farming are the most predominant types of rural enterprise.

Serving the sundry needs of the farmer occupies the craftsman, merchant and tradesman. Such industry as does exist is mostly related to the soil. A busy creamery turns out butter at the rate of  $\frac{3}{4}$  million pounds annually; a seed-cleaning plant doubles in wooden ware pro-



FROM TREE TO VENEER to berry box is the sequence of operations at Carlaw's Woodenware factory, one of Paisley's main industries. Inspecting veneer as it comes from the lathe, Hydro Commissioner Howard Carlaw, right, helps to manage this thriving family enterprise.



PROUD of his long association with Paisley is Isaiah Shoemaker, who established a watchmaking and jewellery business there in 1894. He is a former reeve and Warden of Bruce County.

duction, and a cider mill adds an aromatic tang to the clear air in the autumn months. The fast-flowing streams still turn the wheels of two feed mills, and the ground provides the raw material for a brick and tile plant. Trees from farmer's wood lots are rendered into plant and berry boxes by a local veneer mill.

Quiet tree-lined streets, fine schools and churches, comfortable and well-kept dwellings—all these reveal the nature of the folks who live in Paisley. But the memorial

community centre speaks loudest of all. One of the finest hockey and recreational buildings in rural Ontario, it was built as a practical tribute to the district men who died in World War II. And it stands on the ground where a similar structure was reduced to a tragic mass of twisted girders just five days after the official opening. The first was built almost entirely with funds raised by Paisley and district citizens. A heart-warming response throughout the Bruce Peninsula raised the second. ■

# PROGRESS AT PAISLEY

## LOCAL UTILITY INAUGURATES NEW HEADQUARTERS

**P**AISLEY joined the growing ranks of "house-proud" Hydro utilities, April 7, when it changed offices in the community's venerable municipal building. Just across the hall from the former location, the new quarters are in another world as far as comfort, convenience and appearance are concerned.

To Secretary - Manager Don Elwes, the move means an end to a 32-year battle he has waged with temperamental coal and oil heaters in a drafty little room scarcely designed to promote working efficiency or to impress customers. From his new desk, he can survey with pardonable pride the brightly-decorated interior with its recessed lighting fixtures, built-in wall cupboards, and attractive service counter. Comfortable in the healthful heat provided by the latest type of electric baseboard units, he can contemplate the message conveyed by the "Live Better Electrically" display with a grateful "amen."

Mrs. Elwes has good reason to share her husband's enthusiasm for the greatly improved surroundings. She is the Deputy Municipal Clerk, Assistant Secretary of the Paisley Hydro-Electric Commission, and she has the adjacent desk. Together they are Hydro to the folks of Paisley. Except for technical and policy matters, they perform all the duties involved in the operation of a public utility, including billing, collections, accounting and meter reading.

Ontario Hydro Commissioner Lt.-Col. A. A. Kennedy cut the ribbon to declare the new Paisley centre officially open. At a dinner following the ceremonies, he congratulated the local commission for its initiative and foresight, not only in providing improved office facilities, but for its fine record



IT WAS A PROUD MOMENT for Paisley when Lt.-Col. A. A. Kennedy, Ontario Hydro Commissioner, cut a ribbon to officially open the new Hydro office. He was flanked by Reeve Kenneth Muir (left) and Paisley Hydro Chairman W. E. Theaker. In the background (left to right) are: Mrs. Theaker, J. C. Ferguson, Manager of Ontario Hydro's Georgian Bay Region, Mrs. W. R. Mathieson, Toronto, and Mrs. Muir.



MEMBERS of the Paisley Commission (left to right): Reeve Muir, Commissioner Carlaw, Chairman Theaker and Mr. Elwes admire the transition from blueprint to modern office.

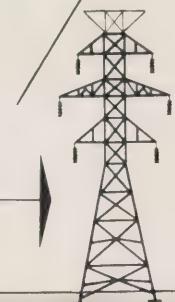
of service and achievement over the years.

Stressing the importance of promoting greater domestic use of electricity as the best means of keeping utility rate structures at a competitive level, the speaker pointed out that the total consumption of electricity by domestic

customers of Paisley Hydro had increased by more than 600 per cent since 1945, while the number of customers was only 21 per cent greater. Load growth in the commercial and industrial categories had also been substantial, and this, he said, had been largely respons-

(Continued on page 32)

# ALONG HYDRO LINES



## Installed electric heating equipment given tax parity

A boost in morale for utility representatives, electrical manufacturers and contractors, as well as builders, who are selling and installing electric heating equipment, was provided by the 1960 budget of the Canadian Government. Finance Minister Donald Fleming announced that electric heating equipment—permanently installed in homes, commercial, industrial and institutional buildings—would be given tax parity with other forms of permanently installed heating equipment.

## Simcoe P.U.C. sets new rate schedule

Simcoe P.U.C. has announced rate reductions for its residential, commercial and power customers. A saving to residential customers of approximately 11 per cent will result from the new rate. Commercial and power customers will also enjoy the benefits of lower rates which came into effect on January 1 this year.

## R. J. SMITH, PERTH, DIES

A PIONEER in the public utility field and a prominent citizen of Perth, Robert J. Smith, 83, former manager and secretary-treasurer of Perth P.U.C., died on March 21 while on a vacation with his daughter, Miss Elspeth Smith, at Hastings, Barbados, W.I.

Mr. Smith retired from his position with the Perth utility in 1953 after a unique record of public service to that community covering a period of some 55 years. He started his career on August 4, 1897, while a waterworks system was being installed in that town. On completion of the system, Mr. Smith was named manager.

### Active in A.M.E.U.

Born in Perth in 1877, Mr. Smith was educated at Perth Public School and Collegiate Institute, and also at the Ontario Business College in Belleville. An active member of the A.M.E.U. for many years, he served as President in 1946. His contribution to the association and to the growth of the municipal electrical systems of the Province was recognized in 1956, when he was presented with an honorary membership.

Mr. Smith was also senior member of the Canadian Section of the American Water Works Association, having joined the parent association at New York in 1911, some nine years before the formation of the Canadian group. His long service in the waterworks field was recognized by the Canadian Section in 1952, when he was presented with an engraved silver tray



ROBERT J. SMITH

at the annual convention in Montreal.

Besides these outside interests, the deceased actively participated in community affairs. A member of the Perth Board of Education for 17 years and Secretary of the Perth Library Board for five years, he also founded and served as Secretary-Treasurer of the Perth Museum Inc., in which he took an active interest for many years. A member of the Perth Rotary and Canadian Clubs, he was an ardent fisherman and hunter, and served as President of the Perth Fish and Game Association.

Since his retirement, Mr. Smith and his daughter have travelled extensively in Hawaii and South America, but have spent the past three winters in the Barbados, where he was buried on March 22.

## COTTAGERS MUST PAY THEIR WAY *(Continued from page 1)*

Ontario have increased their average annual use by 2,016 kilowatt-hours, rural hamlet customers by 1,788 kw.-hrs., but the average rural summer cottage consumption has not shown any increase whatever. Thus additional revenue from summer cottage customers is not available to meet the higher operating costs prevailing today. We are confident there will be a full appreciation of the reasons underlying the Commission's decision to put its summer electrical services on a paying basis.

## DATE STONE

FORTY-SEVEN years of service was given recognition, recently, when Miss Frances Heeg officially placed the date stone for the Guelph Board of Light and Heat Commissioners' headquarters now under construction in that city.

Miss Heeg, who joined the commission staff in July, 1913, served in many positions until her appointment as treasurer on September 13, 1939. On February 21, 1951, she was placed in charge of accounts, a responsibility she still holds.

Miss Heeg's knowledge of Hydro and the growth of the system in Guelph is unique, both from personal and family aspects.

Her father, Jack Heeg, was named secretary and superintendent of the electrical department in 1907, having succeeded John Yule in that position nine months following the formation of the commission. At that time Guelph



owned its own generating system.

The family tradition of service with the board was enhanced by the work of Miss Heeg's uncle, Joseph Heeg, who retired as line superintendent after service of many years.

Following the brief stone-laying ceremony, Miss Heeg was presented

with a bouquet by Sydney Brown, who was appointed this year for a second term as chairman of the commission. Mr. Brown is shown with Miss Heeg in the accompanying photo.

The official opening of the new building is scheduled for July 8 this year. ■

## HALF-CENTURY MARK

HERE'S a good chance that members of the Toronto Hydro Quarter Century Club will have to battle snowdrifts on their way to next year's annual banquet.

The question of changing the date of the banquet from February to early fall was put to a vote recently, but the winter date won out.

More than 300 utility veterans were present at the banquet this year to welcome two new members to their ranks. They were Miss Bertha Usatis and Jack C. Ramsay, who attained 25 years' service in 1959.

Hearty congratulations were also extended to 15 employees who have been with the System since 1919. They were presented with 40-year pins by Chairman Bert Merson and Vice-Chairman John McMechan.

Special tribute was paid to



Norman Fisher, the first employee to attain 50 years' service with Toronto Hydro. Mr. Merson (right) expressed appreciation of Mr.

Fisher's long service record and presented him with an illuminated scroll as shown in the accompanying photograph. ■

## HYDRO RESEARCH LABORATORY MOVES FOR EXPRESSWAY

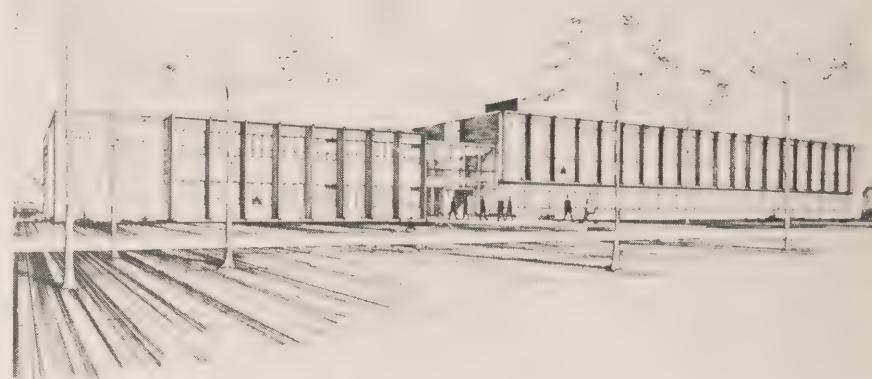
MAKING way for the extension of Metropolitan Toronto's Gardiner Expressway, Ontario Hydro's 47-year-old research headquarters on Strachan Avenue will move to a new building in 1961.

The research division staff of about 300 will leave its location at the east end of the Canadian National Exhibition for new quarters in Islington.

Additional services for the laboratory's extensive testing and development work will also be available at the new site on Kipling Avenue at Hydro's 180-acre A. W. Manby Service Centre. The building will have a gross area of about 160,000 square feet, including the space in a separate adjoining building to be constructed and specially equipped for high-voltage testing.

In addition to the research space, the new quarters will provide room for central record storage and for the service centre's administration staff.

The substructure contract has been awarded to Taylor Woodrow



(Canada) Limited, and work will soon begin on the H-shaped building, which will be two storeys high with one, three-storey wing.

The building will be heated electrically throughout, and air-conditioning required in many laboratory operations will be provided. An attractive blend of brick, glass, pre-cast concrete and colored

mosaic will form the building's front.

The Expressway will require demolition of the existing laboratory building. Metropolitan Toronto is buying this, along with a surplus transformer station adjacent to it, to replace certain CNE facilities also lost to the Expressway. ■

## DUNDAS DOES IT

SECOND of Ontario Hydro's completely electrically-equipped offices was officially opened at Dundas recently. Ontario Hydro Commissioner D. P. Cliff, secretary-treasurer of the O.M.E.A. (second from right), cut the ribbon and congratulated the manager and staff of the Dundas Operating Area on their handsome new premises. Mr. Cliff, a descendant of a pioneer Dundas family, recalled his boyhood, and said he and his friends used to play on the site of the new building after climbing out of a nearby swimming and fishing hole. He also pointed out that the deeds to this property were among the first taken out by Ontario Hydro 50 years ago. At that time, the



Commission's property holdings totalled  $11\frac{1}{2}$  acres. Today, Hydro owns 87,000 acres in Ontario. Assisting at the ceremony were C. A. West, Dundas Area manager;

W. H. Edwards, manager of Ontario Hydro's West Central Region (left), and O. S. Russell, former regional manager and now Hydro's director of Management Services. ■

## SALES SEMINARS

FIRST of Ontario Hydro's introductory Sales Training Seminars gets under way in Hamilton this month.

Specifically designed to assist regional, area, and municipal electrical utility personnel improve their salesmanship, the course will be presented throughout the province during the next few weeks. Prepared by the Sales Promotion Division's training group, the course, by means of audience participation, films, and other visual aids, establishes the requirements for an effective sales force.

Also covered in this first presentation are the rudiments of sales approach. Lasting one day in each centre, the course will be followed on a continuing basis to keep Commission and municipal utility personnel up-to-date on the latest proven sales techniques.

This training program is part of the province-wide sales promotion program set up in recent months to encourage greater use of electrical appliances and equipment. Primarily aimed at those specifically engaged in sales promotion work, the course will be of interest to all staff members in contact with the general public.

Through the coming months this group will also initiate training programs in sales orientation for all employees, customer relations, and promotional public relations.

Tentative schedule for the sales training course is: Hamilton—May 19 (West Central Region Office); London, May 20; Toronto—May 25; Niagara Falls—May 26; Barrie—May 30; Walkerton—May 31; Bracebridge—June 1; Kirkland Lake—June 2; Sudbury—June 3; Kenora—June 6; Port Arthur—June 7; Ottawa—June 9 (Eastern Region Office); Belleville—June 10 (East Central Region Office). Seminars in Chatham and Sarnia are tentatively scheduled for the week of June 13-17.



HYDRO'S new East Central Region Manager, T. H. Gibbon receives congratulations from General Manager J. A. Hambley.

## NAMED EAST CENTRAL REGION MANAGER

THOMAS H. GIBBON has been appointed Manager of Ontario Hydro's East Central Region. Formerly Operations Engineer at the region's Belleville headquarters, Mr. Gibbon succeeds E. G. Gurnett, who retired April 30 after 44 years' service with the Commission.

Born and educated in Durham, England, Mr. Gibbon articled with an electrical engineering and construction firm in that city. During World War I he served in France with the Royal Engineers, and for a short period with the Royal Air Force. He came to Canada and joined Ontario Hydro in 1921. During his 38 years of service,

Mr. Gibbon has served in a number of engineering positions with the Operations Division. He was appointed Operations Engineer of the East Central Region in 1947. He is a member of the Association of Professional Engineers of Ontario and the Belleville Club.

Hydro's 10,000-square-mile East Central Region extends along Lake Ontario from slightly west of Port Hope to a point near Gananoque, and north to the southern boundary of Algonquin Park. The region contains 31 municipal electrical utilities and 13 rural operating areas, serving approximately 140,000 customers.

### F. A. Sprentall, Stirling P.U.C. manager, retires

Two veteran members of the Stirling P.U.C. staff have retired after a lengthy period of service to the utility. F. A. Sprentall, manager-secretary for the past 50

years, has relinquished his position, but is being retained as a consultant. W. N. Flindall, former manager of Brighton P.U.C., succeeded Mr. Sprentall on April 1 this year. Also retiring from the Stirling staff is Gordon Bailey, who served as line superintendent for 25 years.

## A.M.E.U. honors former Toronto Hydro managers

**I**N recognition of their combined 92 years' service to the Toronto Hydro-Electric System and their contribution to the A.M.E.U., two former general managers received honorary memberships in the association recently. From the left are the guests of honor, H. J. MacTavish and J. S. McGregor; Harry Hyde, A.M.E.U. president and Toronto Hydro's present general manager, and Ray Pfaff, immediate past president of the Association and manager of St. Catharines Public Utilities Commission. Framed certificates were presented at the A.M.E.U.'s annual Past President's dinner in Toronto. Mr. MacTavish joined Toronto Hydro



in 1914, and was general manager from 1951 until his retirement in 1958. Mr. McGregor started in

1911, succeeded Mr. MacTavish as general manager, and retired last fall. ■

## Award St. Lawrence dredging contract

Although all units are now in service at the St. Lawrence Power Project, the sprawling development is not completed yet. Recently Ontario Hydro awarded a contract to McNamara Construction Company, Toronto, for the dredging of an estimated 1,363 million cubic yards of material from an area extending downstream from the powerhouses for approximately 5,000 feet on both sides of the international boundary, and subsequent removal of the material. Work will start in the near future, and present schedules call for completion in October, 1961.

## Pioneer Toronto Hydro staff member dies

Frederick J. Vincent, 74, a pioneer member of the Toronto Hydro staff, died recently in Florida while on vacation. Mr. Vincent joined the Toronto Hydro staff in 1911, and served continuously until his retirement four years ago. He is survived by his wife, two sons, two daughters and five grandchildren.



## FOOD – ON THE DOUBLE

**HYDRO CHAIRMAN** James S. Duncan, his wife (centre) and daughter, Rosa Maria (left) had to wait only 90 seconds for hot dogs to be cooked electrically at the Hydro display at this year's National Home Show in Toronto. Piping hot, these tasty morsels were served by Hydro Home Economist Lois Hurst. Mr. Duncan and his family were joined for the impromptu party by Amos H. Waites (right), chairman of the Mimico Public Utilities Commission, and president of O.M.E.A. District No. 4.

## IN CANADA'S CAPITAL

(Continued from page 17)

ating areas meet once a month with regional department heads to discuss one another's problems, which may vary widely.

For example, the very size of Cobden area creates difficulties in communications and administration. In addition to the main area office, crews operate out of sub-offices at Des Joachims, Barry's Bay and Renfrew. On trouble calls, especially in the northern section, which includes part of Algonquin Park, two men go out in case the truck gets stuck.

In Plantagenet area, Manager R. J. Lavigne is bilingual, as are all members of the staff who deal with the public. Several in Lancaster and Vankleek Hill areas also must speak French.

Brockville area, stretching along the St. Lawrence, serves many island cottages where power must be turned on for the summer, off for the winter.

The region provides technical and managerial assistance to municipalities to the extent that they need it. In some smaller municipalities, Hydro's role extends to complete operation, maintenance and management of the utility. Hydro groups form an important part of many communities.

Eastern operates 119 trucks—all of them carry snowshoes—plus equipment such as muskeg tractors, snowmobiles, as well as chippers and chemical spray units for forestry crews, who spray 4,000 acres of right-of-way a year to keep down brush growth.

To maintain lines and plants, the region stocks something like \$1,000,000 worth of goods at stations and areas—everything from spare generator parts to tulip bulbs.

Many of the parts are extra protection against emergencies, and Joe McClure, stores accounting supervisor, passed on a well-aged saying about them—"Hope we never have to use them."

Another form of protection for customers is provided by the region's 21 electrical inspectors—a division of the province-wide Hydro force which must approve every electrical installation in Ontario.

Last year, the Eastern inspectors made more than 85,000 inspections and logged 261,000 miles by car. Cobden area alone accounted for 43,000 miles of this total.

As in other parts of the province, new installations are reflecting the trend towards electric heating. Eastern's tally: 19 all-electric homes plus 10 under construction, two models, an apartment house and a general store.

One all-electric home—owned, significantly, by electrical contractor Bob Rivington, of Almonte—recently won the national lighting contest sponsored by the Electrical Bureau of Canada.

Eastern is also proud of a new installation at Frankville United Church, believed the first church in North America to use infrared radiant lamps for a heating system.

The region has come a long way since the early days in Toronto's Bailey Building. Now there are some 1,000 employees, about 120 of them in the regional office, the others split about 50-50 between station colonies and areas.

It's a young region, the last to sink its roots in, and young in outlook, too. Mr. Pedersen thinks the average age of his staff is below that of any other region.

Operations Engineer H. T. (Doc) Turley, who started with Hydro at Trenton for 25 cents an hour, found, when he joined the Quarter Century Club recently, that none of the regional superintendents is a member yet.

"It's a young region, all right, young in ideas," Doc said. "I think that's a good idea."

J. W. (Jack) Young, consumer service engineer and one of Eastern's "old originals," commented, "We're going strong because we're

not fully developed yet compared with other Southern Ontario regions."

But A. M. Pedersen had the last word on his "Leader Region":

"Just say we try to keep ahead a little bit."

## IT HAPPENED IN PAKISTAN

(Continued from page 10)

Two Hydro employees, both on leave of absence for a year, recently joined the other Canadians at the site.

Kenneth S. Gemmel, plant superintendent at Chenaux Generating Station on the Ottawa River, arrived last fall to take over as plant superintendent at Warsak.

Arthur E. Lock, 43, a first operator at Robert H. Saunders-St. Lawrence Generating Station, arrived in March to be chief operator of the station.

### Shipped From Canada

Mr. Gemmel says the provision of equipment for the project has been a "considerable feat." Everything from "hand shovels to mobile cranes, every bit of wire and cable, every piece of electrical equipment, in fact everything but cement had to be shipped in from Canada."

He reports that equipment and material disappears frequently, despite the fact that every workman is "frisked" by police when leaving work.

In February this year, a mile of aluminum conductor off the new lines was reported missing. "When we get the lines alive at 132 kv," Mr. Gemmel observes, "we will probably discourage that!"

He says the following is a typical sign on the job:

*"Be asure when depositing your tools with store keeper that store keeper has signed in column of return and also has drawn across. No argue will come into force. Tools issue as temporary should be return on every evening. Otherwise the store keeper will bring this in Canada's notice."*

## NAMED GENERAL MANAGER AT GUELPH

HOLDER of a distinguished World War II record, A. Gordon Stacey assumed the position of General Manager of the Guelph Board of Light and Heat Commissioners on March 1 this year.

Mr. Stacey was born at Thornhill, Ont., in 1922, and educated in Toronto, graduating from the University of Toronto with his degree in Electrical Engineering in 1950.

During World War II he served with the R.C.A.F. as a navigator. On a flight over Holland, his aircraft was shot down, but Flight Lieutenant Stacey managed to evade capture.

Since joining the Guelph utility after graduation, he has served as engineer, superintendent of the Electrical Department, as well as Assistant General Manager and Chief Engineer for the past two years. He retained the latter position in assuming his new duties recently as successor to William J. Bishop, who relinquished the post due to ill-health. Mr. Bishop is remaining as Secretary-Treasurer of the Guelph board.

Active in A.M.E.U. circles, Mr.

## THE COMMISSION'S WATER HEATER RENTAL PLAN

(Continued from page 21)

a peak day delivery of 105 gallons of hot water at a monthly charge of \$6.50. It is for the average household where there is above-average use of hot water.

• The Special model: a 50-gallon tank and two 1,500-watt elements, assures a peak day delivery of 120 gallons of hot water at a monthly charge of \$7.80, and is for large households or commercial installations where demand is average.

• The Special Fast Recovery Combination: a 50-gallon tank with a 4,500-watt upper element and one 1,500-watt lower element, assures a peak day delivery of 155 gallons of hot water at a monthly



GORDON STACEY

Stacey is presently Vice-President of the West Central Region group, and has been prominently identified on several of the association's committees. In addition, he is Chairman of the Guelph subsection of the A.I.E.E. and Past President of Wing 400 of the R.C.A.F. Association.

Mr. and Mrs. Stacey have one son and one daughter. ■

charge of \$7.80 (plus cost of the energy used by the upper element, which is metered). Recommended for large households or commercial installations where there is maximum use of hot water.

Hydro's rental plan provides for installation, including normal connections to existing plumbing and electric wiring. All service and maintenance, including complete replacement, if necessary, is also included in the monthly charge for each unit.

An accurate barometer of the popularity of Hydro's water heater program is the fact that a total of 18,040 new water heaters were installed in the rural areas and local systems served directly by Ontario Hydro between May, 1958, and March 31, 1960. ■

## PROGRESS AT PAISLEY

(Continued from page 25)

sible for important reductions in the average cost per kilowatt-hour for all three customer classifications.

### Near Nuclear Project

Noting that Paisley is less than 20 miles from the site of the Douglas Point Nuclear Power Project, where preliminary work is now underway, Col. Kennedy commended local citizens and those of the surrounding municipalities for welcoming this scientific development. Discounting the possibility of any contamination from the station when it commences operation, the speaker expressed the view that fear of the unknown might have led to certain protests on the part of less enlightened persons. The speaker went on to describe the present status of the project, the tentative work schedule, and the effect this \$60,000,000 development is likely to have on the local economy.

"No such plant has ever been built anywhere in the world," he said in conclusion, "and the people of this area will have a ringside seat for a performance which might well alter the structure of our entire economy."

J. C. Ferguson, manager of Hydro's Georgian Bay Area, told the gathering that the 68 Hydro cost-contract municipalities in the region shared the Paisley Commission's pleasure and sense of accomplishment represented by the new headquarters. He lauded the commission for being the first in the district to install an all-electric heating system, and he predicted a great future for this type of heating.

Congratulatory messages were also extended by John Low, Uxbridge, representing the O.M.E.A.; Ron Mathieson, A.M.E.U. secretary-treasurer; Mike Fisher, Bruce County warden, and Ken Muir, reeve of Paisley.

—By Don Wright.



POWER FOR THE FUTURE—DOUGLAS POINT NUCLEAR POWER STATION

ONTARIO

HYDRO

# NEWS



JUNE, 1960



# ONTARIO

## THE COMMISSION

JAMES S. DUNCAN, C.M.G., LL.D.  
Chairman

W. ROSS STRIKE, Q.C.  
First Vice-Chairman

HON. ROBERT W. MACAULAY, Q.C., M.P.P.  
Second Vice-Chairman

LT.-COL. A. A. KENNEDY, D.S.O., E.D.  
Commissioner

D. P. CLIFF  
Commissioner

J. M. HAMBLEY, B.Sc.  
General Manager

OTTO HOLDEN, B.A.Sc., C.E., D.Eng.  
Chief Engineer

ERNEST B. EASSON, B.Com.  
Secretary

## EDITORIAL BOARD

JAMES S. DUNCAN, C.M.G., LL.D.

DR. V. S. WILSON  
President, O.M.E.A.

HARRY HYDE, P.Eng.  
President, A.M.E.U.

J. M. HAMBLEY, B.Sc.

OTTO HOLDEN, B.A.Sc., C.E., D.Eng.

ERNEST B. EASSON, B.Com.

JAMES A. BLAY

BOYD L. GRAHAM

\*

Editor - BOYD L. GRAHAM

\*

SUBSCRIPTION: \$5.00 PER YEAR

Published by  
the Information Division of  
The Hydro-Electric Power Commission of Ontario  
620 University Avenue, Toronto.

Authorized as second class mail, Post Office  
Department, Ottawa

Material published in Ontario Hydro News may  
be reprinted without permission.  
Most photographs are obtainable on request.



Member of the Canadian  
Industrial Editors Association  
and the International Coun-  
cil of Industrial Editors.



JUNE, 1960

VOL. 47, NO. 6

## CONTENTS

PAGE

Off the Wires	1
Column of comment by the Editor	
Spare That Tree	2
The story of Ontario Hydro's skilled foresters	
Inspection is Protection	5
Electrical inspectors are proud of their life-saving record	
Since Ballyghiblin Days	8
There were "high-jinks" at Almonte, Ont., in the good old days	
An Engineering Honor	12
St. Lawrence Project receives award	
They Can Try Before They Buy	14
London P.U.C. opens appliance demonstration centre	
We're Banking On Good Ideas	16
How Hydro utilizes the "power of suggestion"	
Atomic Test Rig	20
Exhaustive experiments for Canada's first major nuclear-electric plant	
Let's Chat	22
With Ontario Hydro's Homemakers' Service	
Along Hydro Lines	24
Capsule review of utility operations and people	
COVER PHOTO	
AS WE indicate in our article, "Atomic Test Rig" on page 20 this month, design work is going ahead for Canada's first large-scale nuclear-electric plant, the Douglas Point Nuclear Power Station depicted in model form on the front cover of this issue.	

# HYDRO NEWS

## off the wires

GORDON STACEY, general manager of Guelph Board of Light and Heat Commissioners, has asked us to announce that the official opening of Guelph's new utility building has been postponed from July 8 to September 9. The delay, it is felt, will give the staff more time to move into their handsome new headquarters and get everything "ship-shape".

\* \* \*

WE HOPE it isn't too late to express our sincere regrets and our deepest sympathy to the family of the late William L. Houck, of Niagara Falls. Not only has the Niagara district lost a staunch and active supporter, but Canada has lost one of her finest citizens. A member of the Ontario Legislature representing Niagara Falls, he was, for several years, Minister without Portfolio and Vice-Chairman of Ontario Hydro. Throughout his quarter-century in provincial and federal politics, Bill Houck was fortunate in the firm friendships and esteem he enjoyed among many colleagues on both sides of the Ontario Legislative Assembly and the House of Commons.

\* \* \*

ONTARIO HYDRO'S helicopters and their pilots often give

assistance in emergencies, besides their regular line patrol, brush-spraying and other duties—but none more odd than that of spotting fires. Not long ago, Pilot Bruce Best and the observer, Gerald Hankinson, noted flames shooting from the roof of a house near Galt. Best landed his craft near the burning home, thus attracting several neighbors, who formed a volunteer bucket brigade and kept the blaze under control until the Branchton Fire Department arrived and put it out.

\* \* \*

A SIMILAR incident occurred last year when Best observed a motorist frantically digging into the trunk of his car. Closer scrutiny revealed the car engine was ablaze. Best landed close to the smoking vehicle, and succeeded in extinguishing the blaze with equipment from the helicopter—much to the amazement and relief of the thankful traveller.

\* \* \*

AND WHILE we're on the subject of cars and motorists, let's not forget the campaign of the Canadian Highway Safety Council to "Check Your Car—Check Accidents." As council officials point out, the past winter was a rough one. Many

vehicles took a heavy beating, which might have caused hidden defects to develop. Remember the highways are busy places these days!

\* \* \*

SPEAKING of being busy, reminds us that Hydro engineers are busy too—even the retired ones. Notable is our good friend, Reg. Jones, formerly Ontario Hydro's distribution engineer. Besides his duties as a member of Albion Township Council (to which he was returned by acclamation this year), Reg. is a contributing editor of *Electrical News and Engineering*. Then, too, he's a member of Metropolitan Toronto and Region Conservation Authority; Secretary of the Bolton Rotary Club, as well as Secretary of the Dufferin and Peel Presbytery of the United Church.

\* \* \*

ANOTHER HYDRO ENGINEER, John L. Witbeck, has been selected to act as technical adviser to the West Pakistan Road Transport Board in setting up maintenance and repair shops for its large fleet of approximately 1,300 buses, which serve some 33 million people. The 45-year-old Services Man  
(Continued on inside back cover)

**How Hydro's  
Woodsmen . . .**

**SPAR**

ELECTRICAL SERVICE can be interrupted when ice storms, like those which struck the Metropolitan Toronto area during the past winter, send trees and limbs crashing down on Hydro's distribution lines.



A STATELY elm died with a crash late last summer, and people mourned for miles around—with good reason, because it toppled across a power line, blacking out the Western Ontario districts of Tillsonburg and Burgessville for more than an hour.

The next day, another tree fell a few miles away. This time the Village of Burford had no electricity for seven hours.

Accidents like these, or even the gentle brushing of a twig against a line, may interrupt power to customers miles from the spot.

In normal weather conditions, trees present some problems; in a storm, they can add up to a crisis,

as Ontario learned when the vicious ice attacks of December and January sent thousands of trees and limbs crashing down on lines.

Electrical utilities agree that trees are the greatest single cause of interruptions. But when it comes to dealing with them, power suppliers and distributors find themselves out on a limb: the utilitarian answer would be to chop them down if they get in the way, but dollars-and-cents logic cannot defend the wholesale slaughter of landmarks and landscapes. No one wants to see a grove of maples replaced by a string of poles. Yet, by next year,

Ontario Hydro will find itself with some three and a half million trees located sufficiently close to lines that they represent a hazard to uninterrupted service.

The Commission today employs approximately 600 skilled foresters, whose job it is to protect the health and appearance of these trees, and, at the same time, guard against their interfering with the flow of power.

The best way to avoid trees, of course, is to locate lines away from them. Apart from aesthetic considerations, keeping poles in the open avoids the risk that children will climb trees and contact live conductors.

When possible, Hydro locates lines on private property and pays easements to the owner. If a line is to run beside a public road and work on trees is necessary, the Commission insists on permission not only from the appropriate municipal or provincial road authority, but also from adjacent landowners. This isn't an obligation, but it's good public relations, and people seldom object after tree problems are explained.

There are other answers, such as using poles tall enough to clear trees, or planting trees which are short enough to avoid lines. It would help if planners of subdivisions and other projects would specify "tailor-made" trees that don't grow more than 25 or 30 feet in 40 years—varieties available in nurseries, such as flowering crabapple, plum and hawthorn; European ruby red horse chestnut; European white birch, or Idaho locust.

Trees which cannot be readily avoided are largely the responsibility of Hydro's 86 forestry crews, averaging seven men apiece, with mechanized equipment like ladder

(Continued on page 4)

by JAMES FOSTER



SKYWORKERS like this are invaluable allies of Ontario Hydro's 600 skilled foresters, who are responsible for protecting the health and appearance of trees, as well as guarding against possible interference with lines.



MORE THAN 37,000 acres of scrub growth along transmission line rights-of-way were treated with herbicides in 1959. Some 13 per cent of the 2,900,000 gallons of chemical used in this battle against brush were sprayed from the air in Northern Ontario by Hydro's helicopters.



LAST YEAR Hydro's foresters planted more than 106,300 seedlings on Commission-owned property, thus making a significant contribution to forest conservation in the Province. Den Uyl Tree Planters like this help to speed up the Commission's reforestation program.

trucks and high-speed, gasoline-driven saws.

Their expert trimming on a planned, year-round basis reduces tree removals to a minimum. Pruning along most sub-transmission lines is done on a two-year cycle, and along distribution lines on a two- to five-year cycle. The forestry men are especially trained

to shape trees as they prune, and to spot dead or hazardous trees that might fall.

Last year alone, 853,189 trees were pruned or, if absolutely necessary, removed.

Pruning and removal of trees still constitute the major phase of Ontario Hydro's forestry operations.

Another vital and, perhaps, more spectacular part of their work is the warfare they wage against scrub growth along transmission line rights-of-way, which, if left unchecked, would block access for maintenance or emergency repair crews, and eventually interfere with the lines.

All brush was cut by hand until 10 years ago. And even today the axe is still the indispensable ally of the Ontario Hydro forester. Last year some 2,900 acres were cut by hand.

But science has come to the aid of Hydro's Forestry Department. Through the co-operation of the Commission's Research Division and the Forestry Department, techniques have been developed and chemicals tested and chosen that now enable forestry crews to carry out a relentless chemical battle on scrub growth. The switch has meant substantial savings in both time and money. More than 37,000 acres were treated in 1959 with 2,900,000 gallons of herbicides, about 13 per cent of which was sprayed from the air by Hydro's helicopter fleet. (See *Ontario Hydro News*, June, 1959.)

While the Commission is fighting brush growth along its lines, it is also restoring Ontario's greenery.

Since 1932, when the reforestation program started, more than a million trees have been added to Hydro-owned land. Last year the foresters planted 106,300 seedlings provided by nurseries of the Lands and Forests Department. These young evergreens and hardwoods reduce site maintenance work, efface scars left by construction forces, and grow into valuable stands of timber as selected mature trees are sold through controlled cutting.

The program also encourages conservation of one of the province's great natural resources. Ontario Hydro is proud of its role in this field, of its protective measures today, and the planning which will bear fruit tomorrow. ■

# INSPECTION IS PROTECTION

Quietly, efficiently, the I.A.E.I. does an important, difficult job



HANK ZIMMERMAN, Ontario Hydro Inspector, who works in Windsor, includes conductor joint insulation inspection among his regular duties.

You can prove anything by statistics — according to statisticians. However, it's unlikely you could calculate the number of lives and value of property saved each day through the work of members of the International Association of Electrical Inspectors.

The I.A.E.I. is essentially an instrument for prevention. A non-profit organization with many countries of the world represented among its 10,000 members, it includes electrical inspection authorities, utilities, manufacturers, distributors, and insurance inspection groups.

I.A.E.I. has a Canadian section, within which there is an active Ontario Chapter.

Through its own Electrical Inspection Department, Ontario Hydro has contributed a large share to the formation, continuation, and success of the I.A.E.I. By expounding the principles of safety in the use of electricity, the department — under the authority given the Commission by The Power Commission Act in 1915 — has quietly and effectively enforced rules and regulations for nearly 50 years.

In 1915, when the first electrical code for Ontario was established, Ontario Hydro was made responsible for the inspection of all electrical installations throughout the province. In 1916, a section of the Commission's laboratories was equipped for testing electrical

*(Continued on page 6)*

equipment for safety from fire and accident. This represented Canada's entry into the field of testing and approvals, and from 1919 was extended to other provinces, until it became a national service now under the Canadian Standards Association.

One of the truly great pioneers in this work and in Ontario Hydro's association with the C.S.A. and the I.A.E.I. was Dr. W. P. "Perce" Dobson (see page 27), who retired from the Commission in 1955 after 40 years' service. "Perce" Dobson served as a technical advisor from the time the first Canadian Electrical Code was being prepared, and for years he was chairman of many of the most active and important of the C.S.A.'s committees.

Down the years, many Hydro men have been prominent in the I.A.E.I. and C.S.A. During the "roaring twenties" one of the chief inspectors, the late Art Hall, led a pioneer group of 25 inspectors. Since those days the rank of Ontario Hydro's electrical inspection department have increased more than sevenfold, to 180 today. In 1959, for example, the total revenue from inspection fees was \$2,357,967.

Among other Hydro names well known in this respect are Chief Inspector "Mac" McLeod, first chairman of the Ontario Chapter of I.A.E.I., and later chairmen such as H. J. (Bert) McCaw (Toronto), John Edwards (Port Arthur), Fred Long (Barrie), W. D. Brown (Niagara Falls), R. C. Walsh (London) and G. D. Ross (Ottawa), to name a few. Certainly



TODAY'S MODERN all-electric kitchens make it possible for Mother to keep up with the demands of her growing family. (Left) And the wise housewife knows that adequate wiring is a must in the modern home.

one of the busiest of all chief inspectors must be the present one, Keith Bellamy, who is either chairman or a member of all C.S.A. committees dealing with electrical installation and equipment.

Perhaps two of Mr. Bellamy's more important offices with the C.S.A. are as Chairman of the Technical Advisory Committee on Electrical Equipment, and as a member of the C.S.A. Approvals Council (Electrical). He also sits on the Committee on Oil Burning Equipment, and many other sub-committees, including the Part 1 Committee, which formulates rules for installation of electrical equipment, and the Part 2 Committee which deals with requirements for its manufacture involving 120 specifications. In addition, he is Chairman of the Part 1 Sub-committee on High Voltage.

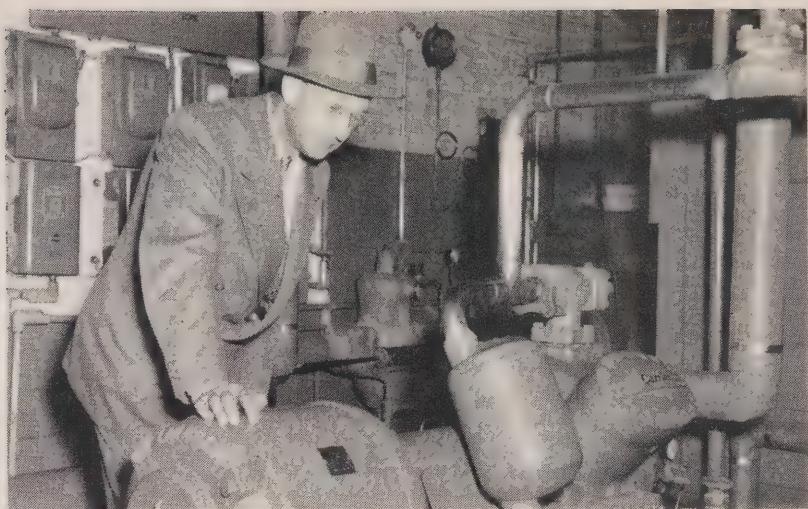
Not just groups with high sounding titles which mean little and do less, the committees of which Mr. Bellamy is a member are of vital importance to every Canadian. With the ever-spiraling demand for electricity in industry, commerce, and especially in the home, it is important that present and future generations be assured of the fullest operational safety in electrical equipment.

In his job as Chief Inspector of the Electrical Inspection Department of Ontario Hydro, Keith Bellamy, and his staff, realize the importance of their work, and the work of the I.A.E.I. and C.S.A. But they encounter certain human problems in making some homeowners aware of the vital need for inspection where electrical instal-

(Continued on page 19)



KEITH L. BELLAMY, Ontario Hydro's Chief Electrical Inspector, is Chairman of the Technical Advisory Committee, Electrical Equipment. He is a member of CSA Approvals Council (Electrical).



ELECTRICAL INSPECTORS like John Janis, of Perth, put years of wide experience to work on jobs like this. Here, John checks the installation of a motor in a plant in his own operating territory.

TWO PIONEERS in the electrical field eventually became Chief Electrical Inspectors with Ontario Hydro. This photograph was taken many years ago while electricians were wiring a building on King St. West in Toronto. In charge of the crew was H. F. Strickland (standing, left), who became the Commission's first Chief Inspector in 1913. Now living in retirement near Bobcaygeon, Mr. Strickland is one of Hydro's oldest living pensioners. Next is Ernie Flowers (deceased), who was noted for the jaunty angle of his hats and his bow ties. He served as Manager of Toronto Hydro's Stations Operating Section for many years before his retirement. In the back row are Humphrey Davies, George Alexander and T. J. Murphy. Kneeling are Art Hall (deceased), who succeeded Mr. Strickland as Chief Inspector, and Ed Irving. The photo was taken in 1895, when Mr. Strickland was in the wiring contracting business. (Electrical News and Engineering photo.)



# SINCE BALLYGHIBLIT

ONCE it liked to be known as "The Little Manchester of Canada," but now the tall water tower welcomes you instead to "Almonte, the Friendly Town."

Not so impressive a title, perhaps, but better suited to the changed personality of today's Almonte, a pleasant town of 3,200 nestled in valley country 31 miles west of Ottawa.

When Almonte compared itself with the English textile centre of Manchester, about a dozen mills were humming along the Mississippi River. One by one they closed down—as have scores of others across Canada—until now only a flour mill and two yarn producers are still running.

The town weathered some lean years, but an influx of Ottawa commuters has helped it continue to grow.

And with the change, with the appearance of modern bungalows beside fine old stone buildings, plans for the future rely more on growth as a satellite of the Capital than a resurgence of the mills, which have been a vital part of Almonte since the 1820's.

## It Began With a Mill

As early as 1819, a young Scot named David Sheppard started a sawmill on the present townsite. It burned down, but Daniel Shipman built another in 1821, and a grist mill a year later. The hamlet around the mills was known as Sheppard's Falls and, later, Shipman's Falls, but it probably had no more than a dozen families



# DAY

Once a thriving textile town,

Almonte looks to other industries for the future



Picturesque Almonte looks to future industrial growth.

until special emigrations from the Clyde of Scotland.

Some of the new settlers came overland, others down the Mississippi on temporary scows, to pitch rough wigwams where the 75-year-old town hall stands today. By the end of 1822, the Scots had built homes and officially boasted an ox, a horse and two cows. (The census didn't bother counting the settlers themselves.)

Then came the Ballyghiblins.

This was the name—apparently common then but now virtually unknown—applied to a second wave of about 560 immigrants, southern Irish fleeing poverty and the potato famine. Two troopship-loads arrived in 1823, and made a temporary establishment for the winter before moving into the townships of Ramsay, Huntley and Pakenham.

But before they settled down there was a grand Donnybrook.

It was the next spring, and toasts were being drunk to the King's birthday in Alexander Morris' grogery at Morphy's Falls (now Carleton Place). When the Ballyghiblins arrived from up-river, shillelaghs flew, heads were cracked, shots were fired, and at least one man was killed.

There were arrests, trials, government investigations, and wildly conflicting reports which even

reached England. Depending on whose side you were on, it was all the work of the Irish or the Scottish, the new settlers or the old settlers, the Roman Catholics or the Orangemen, the militia, or even Mr. Morris' grog.

### A Mexican General

But things quieted down again. Shipman's Falls grew into Shipman's Mills, Waterford, Ramsayville, Victoriaville and, about 1855, Almonte. Oddly enough, for a solid Anglo-Saxon settlement, the final name honors a Mexican general and statesman, who figured prominently in the press at that time, particularly in respect to his firm negotiations with the Americans.

In 1842 the first church was built, and, in 1867, Hon. William Templeman, who was to become a cabinet colleague of Sir Wilfrid Laurier and later a senator, began publishing the *Almonte Gazette*.

Some other Almonte boys who made good:

**Dr. James A. Naismith**, who, in 1891, began using a soccer ball and peach baskets to keep athletes fit between the football and baseball seasons. He didn't realize he had invented what was to become one of the world's favorite sports, basketball.

**Robert Tait McKenzie**, prominent surgeon, educator and sculptor. The 130-year-old Mill of Kintail, which he restored, is preserved as a pioneer museum and memorial to him just outside of town.

(Continued on page 10)

ALMONTE'S POWER SUPPLY is balanced between Ontario Hydro and its own generating station on the Mississippi River. PUC Manager John Lyons says plant operations are smoother since Ontario Hydro helped install automatic equipment.



**Sir Edward Robert Peacock**, who was a director of the Bank of England for 20 years, financial adviser to the Royal Family, and one of the most widely respected figures in British banking circles.

**H. B. Munro**, former personal advisor to President Herbert Hoover, professor of American history at Harvard and world authority on international law.

They're all remembered as old friends by Dr. A. A. Metcalfe, who cheerfully admits he's "getting pretty close to 90" and is still bringing future citizens of Almonte into the world.

"I went to school with Naismith

and McKenzie," he said. "Jim Naismith was a good preacher and a wonderful football player—we trimmed every team around—but he was good mainly for his strength. McKenzie was the better athlete and acrobat."

#### Power Since 1890

"Doc" Metcalfe has also been an electric light commissioner and P.U.C. member for 60 years. Almonte's early electrical history is hazy, but, as he recalls, he and his brothers, James and Robert, built a power plant in 1890, and the town bought it 10 years later.

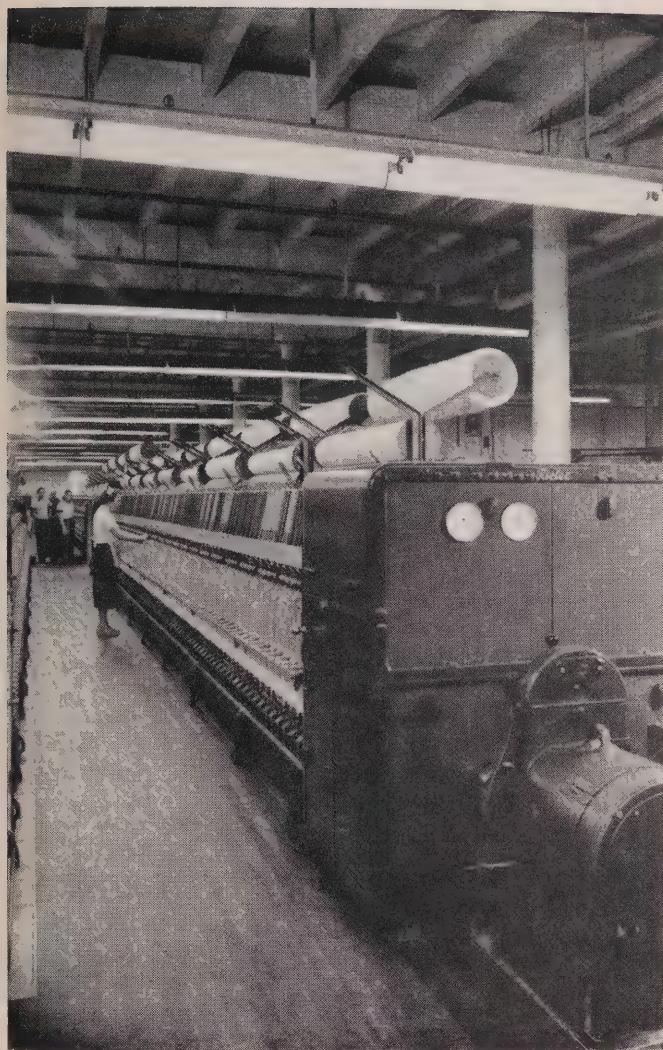
In 1925, the newly-formed

P.U.C. built a new station on the Mississippi and, three years later, added a second unit. The old plant was scrapped.

P.U.C. Chairman Louis Peterson remembers that the power situation was "very poor" when he arrived in 1919 and started an ice cream business.

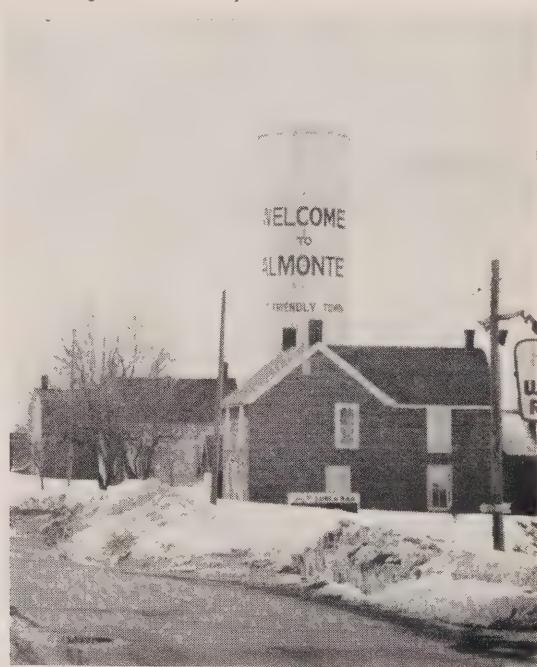
"The lights were yellow, never bright," he said. "Things were better for a while with the new plant, but after about 10 years they got bad again."

The town voted to join the Hydro family, and on Feb. 1, 1945, Ontario Hydro began augmenting output from the municipal station,



LAST of the town's big knitting mills, the Rosamond factory, employs about 100 men and women, plans a major expansion this year.

THE WELCOME'S especially friendly to businessmen who might locate plants here and help replace the ailing textile industry.



whose two generators have a dependable capacity of 750 kilowatts, with an output as high as 840 kilowatts.

Last year Almonte's net generation about balanced its purchases from Hydro. Since 1945, average domestic monthly consumption has increased from 196 to 444 kilowatt-hours, and overall annual sales by the P.U.C. from 2,700,000 to 9,691,000 kw-hrs.

In the last few years, the P.U.C. has renovated its offices and its street lighting, distribution and transformer systems. Almonte also recently became one of the first

(Continued on page 19)

BASKETBALL'S inventor went to Almonte High School 80 years before John Anderson who helped school to league trophy last year.



# AN ENGINEERING HONOR

Ontario Hydro Shares in U.S.A. Award  
Bestowed on St. Lawrence Project

ALREADY acclaimed one of the greatest engineering and construction feats of the century, the St. Lawrence Seaway and Power Project last month came in for a significant, new honor that has deep meaning for every engineer who had a hand in its development.

At a special ceremony, rich in the same atmosphere of international co-operation, which marked the seaway and power projects from their inception, the American Society of Civil Engineers bestowed its first Outstanding Civil Engineering Achievement Award on the four entities who shared in the development.

Four handsome plaques, suitably lettered and engraved, were presented to Ontario Hydro, Canada's St. Lawrence Seaway Authority, as well as the Power Authority of the State of New York and the Saint Lawrence Seaway Development Corporation (U.S.A.).

On hand to make the awards — in the penthouse atop the Robert Moses Power Dam administration building — was Frank A. Marston, president of the A.S.C.E. and Charles B. Molineaux, vice-president, Zone No. 1, of the society.

Accepting for Ontario Hydro was Lt.-Col. A. A. Kennedy, commissioner, who told the audience of some 200 distinguished guests:

"I am accepting this citation on behalf of everyone who contributed to the millions of engineering

ACCEPTING the plaque for Ontario Hydro was Lt.-Col. A. A. Kennedy, Commissioner (left). At right is Frank A. Marston, president of the A.S.C.E., who presented the engineering awards.



man-hours which were required to complete our share of the power project. I am thinking particularly of those in Hydro's Engineering Division, including representatives of the Hydraulic Generation, Generation Design and Stations Departments, as well as the Research and Construction Divisions."

Lt.-Col. Kennedy also paid special tribute to two senior Hydro engineers, Dr. Otto Holden, chief engineer, and Gordon Mitchell, former project director.

Mr. Marston, in his presentation address, said that much credit was due the management genius which went into the St. Lawrence project, but the feat was accomplished because engineers know how to work co-operatively and in harmony.

"It makes one speculate as to what might have taken place, in other parts of the world, if engineers had been given their way in pursuing needed projects for the benefit of mankind, without the hindrances of political influence," Mr. Marston declared.

In stressing the international nature of the achievement, Mr. Marston said that much of the "division of duties," which took place among the four entities, was accomplished by "gentlemen's agreement," and that written agreements on carrying out various portions of the work were the exception rather than the rule.

"A rare demonstration of good will and co-operation," he said.

Mr. Molineaux paid special tribute to the efforts of the two Canadian entities in getting the international project launched. "Our Canadian brothers led us all the way," he told his listeners. "We were a little slow, but when the way was cleared it was amazing how fast we went to work."

Accepting the award on behalf of their own agencies were A. G. Murphy, chief engineer, St. Lawrence Seaway Authority; Martin W. Oettershagen, deputy administrator, Saint Lawrence Seaway Development Corporation, and Robert Moses, chairman of the Power Authority of the State of New York.

Officials of the A.S.C.E. say the St. Lawrence Project was selected from among 12 fine engineering achievements to receive the 1960 award. The competition is expected to be continued annually with the aim of bringing greater awareness and appreciation, on the part of the public, to the great engineering skills that go into the many engineering projects completed each year.

The brief ceremony on the United States side of the river followed a 2½-hour tour of both sides of the river by many of the guests who had come to participate, or simply to watch the ceremony.

Following the event, Ontario Hydro played host to the distinguished gathering at a luncheon held in the administration building of the Robert H. Saunders - St. Lawrence Generating Station. ■



VISITORS TOURED the project area prior to the award ceremonies. At the Iroquois Lock, Dr. V. S. Wilson, Etobicoke Township, president of the O.M.E.A.; J. M. Hambley, general manager, and D. P. Cliff, commissioner of Ontario Hydro, watched as freighter locked through.



DR. OTTO HOLDEN, chief engineer, and one of the architects of the project; J. M. Hambley and Lt.-Col. A. A. Kennedy look over the handsome plaque following the ceremony. Dignitaries from many parts of Canada and the United States attended the international ceremony.

# THEY CAN TRY BEFORE THEY BUY



RANGE HOOD drew interest of this group. From left: Alex Mor representing the centre's architect, Harold L. Hicks, Jackie Tha John Vanderheiden, P.U.C. promotions manager, and Mrs. K. D. C.





HOME ECONOMIST Catharine Moffat (right) demonstrates an automatic washer for V. A. McKillop, P.U.C. manager (next), and her parents, Mr. and Mrs. T. J. Moffatt. He's a member of Listowel P.U.C.



CAMERA LOOKS on while Mrs. V. G. Brown (left) and Mrs. Alex Morton check points of interest in the centre's ultra-modern kitchen. Visitors found two kitchens, both electrical, but differing in motif.

## New London P.U.C. Demonstration Centre first of its kind

**L**ONDON P.U.C. scored an important first among municipal utilities last month with the opening of its ultra-modern appliance demonstration centre.

Built by the P.U.C. with its customers in mind, the striking twin-kitchen layout is the first of its kind ever designed for actual appliance demonstration purposes.

In fact, the sole purpose of the centre is to help the people of London "get more out of life by getting the most out of electricity." Examples of almost every household electrical appliance on the market today—from a green-tinted

washer and dryer to an electric can-opener—have been installed in the centre's two kitchens.

Representing a new facet of the utility's continuing promotional campaign, the demonstration centre will be available to home-makers who wish to obtain maximum efficiency from their appliances. A welcome has also been extended to any groups and organizations wishing to hold a meeting in the centre. It seats 55.

Because London P.U.C. is interested in selling electricity, through greater appliance use, dealers have been invited to direct their customers to the centre, where Catharine Moffatt, the utility's home economist, will demonstrate any appliances on request.

The centre occupies part of the newly-renovated fourth floor of the P.U.C. building in downtown London. Offices for promotional and sales staffs are also there. Some

\$70,000 was spent on remodelling, and approximately half that amount went toward the construction and decoration of the demonstration centre.

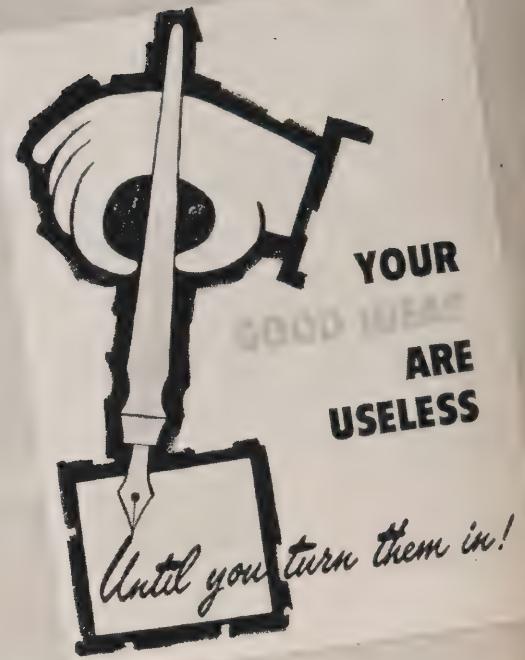
One of the most eye-catching features of the centre is an illuminated ceiling which curves over two kitchen areas—one contemporary, one modernistic in design. Fluorescent tube fixtures provide evenly distributed light through a ceiling of perforated vinyl louvres. P.U.C. officials say it's the only one of its kind in the city.

A concealed air-conditioning system circulates fresh air through the perforated ceiling. The demonstration centre is electrically heated by baseboard convection heaters, and industrial and commercial units have been installed for display purposes.

Side by side, the two kitchens illustrate a pleasing contrast in  
(Continued on page 19)

TEMPORARY STYLING of one of two kitchens designed for the centre's first visitors. Discussing the setting are A. L. Furanna, assistant general manager (left), and Burgess, program supervisor, Department of recreation. Burgess was a visitor at the opening.

SUGGESTION Plan posters like these help to keep the ideas coming in. Located in each office and place of work, they are changed each month.



The Suggestion Plan idea  
is a game  
in which everybody wins

## WE'RE BANKING

CARTOONISTS have been lampooning the office suggestion box for a generation or more.

And there was a time when they had the weight of evidence on their side. In years gone by, it was ludicrous to suppose that any employer, no matter how enlightened, would give even hasty consideration to any suggestion put forward by an underling.

It was equally preposterous that an employee would approach the boss with a suggestion as to how bookkeeping practices could be improved — much less put his thoughts on paper.

Times change though, and with them, people. Today, the cartoonist who caricatures the employee suggestion plan idea (if any cartoonist does), probably isn't aware that the once defenceless brunt of his lampoonery has grown into a lusty, young giant that's paying annual dividends in terms of millions of dollars to industrial and business enterprises.

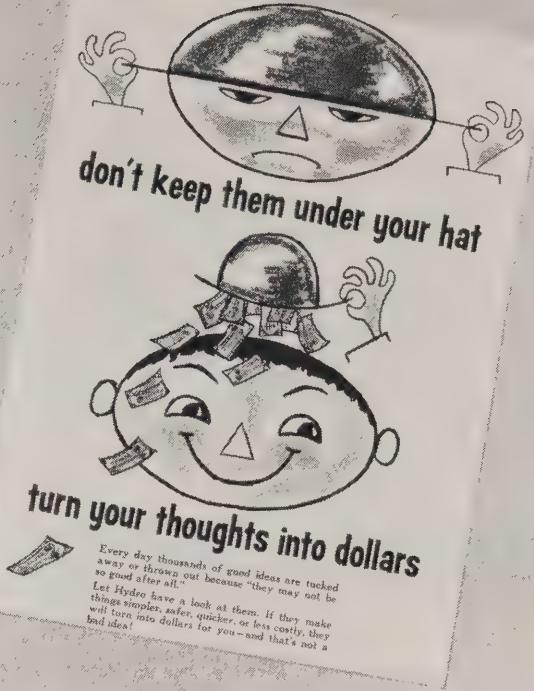
The by-products of a good suggestion plan alone are worth the effort and cost of administering it. For one thing, employees earn tangible rewards for their thought and initiative and develop, in

turn, new respect for their organization and their own place in it and those they supervise.

### Hydro Plan Modern

The Employee Suggestion Plan launched by Ontario Hydro in June, 1957, has two major objectives. First, it seeks to secure maximum improvement in Commission operations through the use of employees' creative ideas. Second, it aims to encourage co-operative communication between all supervisors and those they supervise.

Like other modern suggestion



## ON GOOD IDEAS

systems, the Ontario Hydro plan eschews the old-fashioned suggestion box. It relies on normal inter-office mail channels for gathering suggestions, and upon its supervisors everywhere in the organization for evaluation.

The award schedule offers from \$5 to \$1,000 for accepted suggestions which will mean tangible savings for Ontario Hydro. From \$5 to \$100 are offered for accepted suggestions which will mean intangible benefits.

But the central committee is authorized to recommend special awards in some instances. Biggest

winner to date in the plan is Harry Lidstone, Bracebridge R.O.A. line foreman, who received the maximum \$1,000 together with a \$500 award for his invention of special tools to help make hot line repairs more safe and convenient. Mr. Lidstone's suggestion means savings of \$25,000 annually for Ontario Hydro.

Since the plan's inception in 1957, more than 4,400 suggestions have been recorded. Of these, 465 have won awards for their contributors with the size of the award averaging \$45 (\$127 for those with tangible savings and \$15 for those

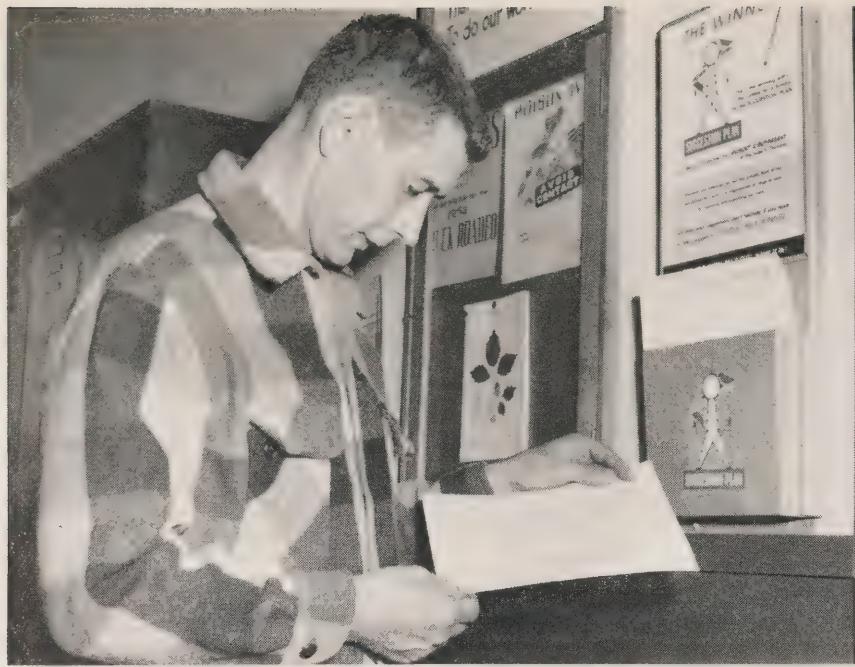
that mean intangible benefits.)

### Other Big Winners

Five employees, in addition to Harry Lidstone, have won the maximum \$1,000 award. Here, the Commission's Northwestern Region leads the parade, for three of the five "big" winners are employees living and working in the northwest.

Suggestion Plan Co-ordinator F. A. Galbraith lists these \$1,000 winners:

Area Electrical Inspector William J. Malcolm, of Terrace Bay  
(Continued on page 18)



**BIGGEST** winner to date, Harry Lidstone, Bracebridge line foreman, won prize of \$1,000 plus a special award of \$500 for his invention of special tools to help make "hot line" repairs safer, easier.



**ONTARIO HYDRO** obtained patents for B. F. Mannen (left) of Western Region. Award of \$1,000 also went to Mr. Mannen (seen with R. M. Laurie and J. W. Stiles) for device to replace heavy fuses high up.

R.O.A., for suggesting the use of galvanized culverts instead of log cribs when installing poles in ground where cribbing is necessary.

Auto mechanic Ken G. McLellan, of Northwestern Regional office, for suggesting use of a hydraulic device to adjust tracks on the muskeg tractor.

Line Foreman Donald A. Fulford, of Dryden R.O.A., for suggesting use of swamp footings of treated lumber, instead of cribs, when poles are being installed in swamp land. In bad swamp, four guy-wires could be added for strength.

Ground Work Foreman M. C. (Lee) Canniff, Construction Division, for suggesting the use of A-frames on swamp buggies being used to haul borrowfill in low lands or swamps. The idea makes machine dumping possible.

B. F. Mannen, operating supervisor, Western Region, who received \$1,000 for inventing a device to replace heavy, high level fuses.



The Commission has patented this invention in Mr. Mannen's name.

In return for being granted royalty-free use of such an invention, Ontario Hydro patents the invention in the employee's name, reserving certain rights for the recovery of its costs.

Where the invention is not considered of sufficient interest to warrant the acquisition of protection by Ontario Hydro, the employee is permitted to secure pro-

tection for his invention on his own behalf.

#### **What Is Plan Worth?**

What has been the dollars and cents value of the Ontario Hydro plan since it went into operation? By the end of 1959, \$23,454 had been paid out in awards to employees. Ontario Hydro itself had saved an estimated \$152,423 through the adoption of operating

*(Continued on page 23)*

## INSPECTION IS PROTECTION

(Continued from page 6)

lation or construction is concerned. The inspectors, who are all appointed by the Commission, spend much time trying to convince people that accidents are not always something which happens to "other people."

It would be unfair to single out any particular section (or sex) for criticism as far as this resistance to inspection is concerned, because in one way or another it's found in 95 per cent of the adult population. Very little of this resistance is active, yet passive resistance is frequently more dangerous. Generally speaking, carelessness and thoughtlessness are the main offenders.

There's the "do-it-yourself" fan with his "do-it-yourself" wiring, for example, and the thoughtless housewife whose new electrical appliance may put too much strain on already inadequate wiring.

But next to the people who don't think or care, the next largest group of offenders are those who say they don't need anybody to tell them what's what in their own home. It is encouraging, however, to know that many young couple with a brand new home, welcome the inspector's advice.

In this electrical age, the role of the electrical inspection department of Ontario Hydro and its 180 inspectors is becoming more important with every day that passes. ■

## SINCE BALLYGHIBLIN DAYS

(Continued from page 11)

Canadian municipalities to try out aerial cable with Roe clamps, eliminating cross-arms on poles.

### Almonte Will Grow

Mr. Peterson says customers are using many more appliances since the power supply improved, and electrical contractor Bob Rivington has noted the growing popu-

larity of electric heating installations. His own all-electric home, a \$22,000 showplace, won the Electrical Bureau of Canada's national lighting contest this year.

Almonte has bounced back from the textile mill slump.

Last month, in fact, Rosamond Knitting Mill, one of the two which have lasted, announced plans for a new dye-house which will provide jobs for about 40 men this summer.

But Rosamond's development manager, Paul Martin, feels that "only an occasional small mill can survive in Canada today because only a few can afford to modernize."

Now Almonte is pinning its hopes on other industries, and a special committee has been established to attract them.

"We have already received several queries, and I feel confident we will see results this year," says Mayor A. H. Whitten. "In addition, for several years now we have been building 20 to 30 new homes a year.

"I think Almonte will grow steadily." ■

## THEY TRY BEFORE THEY BUY

(Continued from page 15)

design, but the same high degree of electrical convenience. The contemporary-styled kitchen features cupboards with acrylic plastic sliding doors. Handsome walnut cabinets accent the modernistic kitchen. An unusual blue-green glass mosaic tile is included in the décor of both kitchens.

The design of the major appliances installed reflects the styling of each kitchen. For example, conventional ranges are installed in the contemporary kitchen, while wall ovens and counter-top elements are featured in the modernistic one.

All appliances have been loaned to the P.U.C. by leading Canadian manufacturers through their Lon-

don distributors and dealers, and will be rotated on a regular basis.

London P.U.C. discontinued appliance sales in its own Hydro shop some time ago. Then, early in 1959, the commission began plans for the new centre, and actual construction started in January of this year.

Manager V. A. McKillop gives much of the credit for the centre's completion to two members of the P.U.C. staff: Frank Wilkinson, formerly manager of the Hydro Shop and present business manager of the commission, and Tony Furanna, assistant general manager. John Vanderheiden, promotions manager, also played an important role in the centre's development. Architect Harold L. Hicks was responsible for the design.

Coincidentally, it was a Londoner—Sir Adam Beck—who first advocated the use of demonstration kitchens to interest people in electricity and its uses. He once ate a meal in a small kitchen set up for much the same purposes as its modern counterpart. ■

## What's A Customer?

THE CUSTOMER is not dependent upon you—you are dependent upon him.

The customer is not an interruption of your work—he is the purpose of it. You are not doing him a favor by serving him—he is doing you a favor by giving you the opportunity to do so.

The customer is not a rank outsider to your business—he is part of it.

The customer is not a cold statistic—he is a flesh-and-blood human being with feelings and emotions like your own, with prejudices and biases—even though he may have a deficiency of certain "vitamins" which you think important.

The customer is not someone to argue with or match wits against—nobody ever won an argument with a customer, though they may have thought so.

The customer is a person who brings us his wants. If we have sufficient imagination, we will endeavor to handle them profitably to him and to ourselves.

Courtesy: Florida Power & Light Co.

# atomic test rig

**Preliminary program at Hydro's A. W. Manby Service Centre heralds plans for Canada's first major nuclear power project**

by WILLIAM RATTRAY

THIS ENGINEER is operating one of the shut-off valves associated with the circulating pumps. Cooling water circulates through the large piping at the top. Immediately below are electrical conduits.

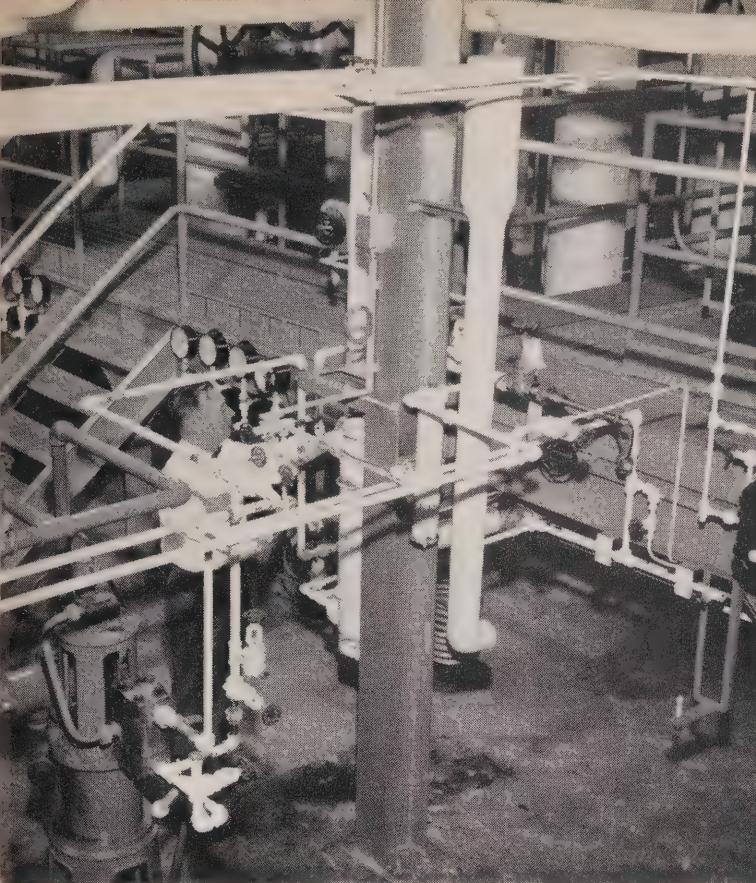


**S**IGNIFICANT and exhaustive experiments now underway on an impressive atomic test rig at Ontario Hydro's A. W. Manby Service Centre at Islington are vitally related to plans for the building of Canada's first major nuclear-electric power plant.

When actual construction is started—possibly about 1961—this \$60,000,000 station, named Douglas Point Nuclear Power Project, will be built on a 2,300-acre site on the shore of Lake Huron, between Port Elgin and Kincardine. On completion, it will have a capacity of 200,000 kilowatts. (The reactor in this station will be known as CANDU—Canadian Deuterium Uranium.)

Under the direction of Atomic Energy of Canada Ltd. (a Federal Government agency), a small, hand-picked staff of engineers is pressing on with an exacting preliminary program, embracing a wide range of highly important tests. In addition to Atomic Energy of Canada and Ontario Hydro, official bodies in a number of other countries are represented, including the United Kingdom Atomic Energy Authority, the Swedish State Power Board, and the United States Atomic Energy Commission. Co-operating closely in the tests are engineers representing companies which specialize in the design and manufacture of equipment.

The average layman might well be overawed on seeing the arresting rig on which these tests are being made. It occupies a space of some 30,000 square feet and reaches to a height of about 30 feet in one of the spacious buildings at Islington. Contrasting with the great lengths of massive piping, which is sheathed in tightly-wound, white-painted canvas, is a glistening and symmetrical alignment of small-diameter pipes. This sweeping criss-cross of conduits, along with elevated platforms and a commanding array of valves, instruments and heavy equipment,



FRAMED BY the make-up pipework, this photograph shows one of the engineers engaged in the important development program standing beside the ion exchange column. The automatic valve for controlling the rate of the pressurizing pump (centre foreground) is visible at the centre left.

combine to capture the attention and interest of the bewildered layman.

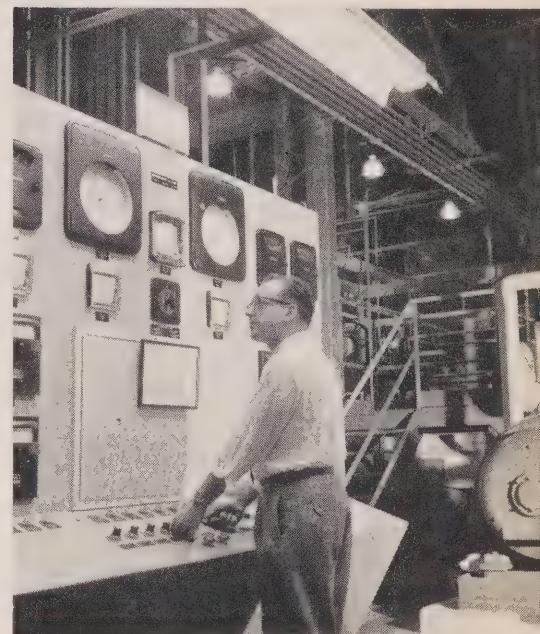
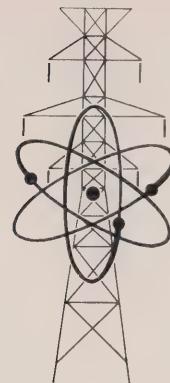
The rig actually comprises two test loops—one for experiments relating to a horizontal reactor, and the other for a vertical reactor. Each is basically a water-circulating system capable of being operated at the high temperatures and pressures encountered in nuclear reactors.

In making these tests, ordinary water instead of heavy water can be, and is used. Bundles of "fuel" rods and tubes, made to scale, are substituted for uranium rods and Zircaloy tubes. There are 19 rods to a bundle in those now being studied, and there is 50/1000 of an inch of space between the rods or pencils when they are bundled. The first thing that is established is an "ideal flow" through the rods within the tube. Each bundle has small fins, which are designed to direct the flow and to eliminate pockets of water gathering anywhere inside a tube. Such a pocket

—or water that does not keep flowing—would cause excessive heat and considerable trouble.

When a satisfactory flow has been established, the water is not only circulated at high pressure, but it is heated electrically to a temperature of 560 degrees. Joints in pipes, valves—in fact any place where water might leak—are carefully observed. This is exceedingly important for heavy water, which is used to draw heat away from uranium fuel rods, costs \$28/lb. at today's prices, and many thousands of gallons will be required in a nuclear-electric plant like CANDU. The various components, such as joints and valves on the test rig, are the types which are being studied for use at the new station.

Various pieces of equipment, such as pumps, will be subjected also to the most rigorous kind of tests. Some of the tests are arranged to represent the service expected during the life of the reactor. ■



ANOTHER INTERESTING feature of the atomic test rig is this intricate control panel.



# LET'S CHAT

with Lois Hurst of Ontario Hydro Homemakers' Service



May 5, 1960

Mrs. Ontario Homemaker,  
Fairtown, Ontario.

*Dear Mrs. Homemaker:*

We are so pleased to hear that your household is one of the 99,000 in Ontario purchasing a new electric range this year. It is such a delight to be looking forward to picking one out, but oh! what a bewildering variety of fine ranges are in the appliance dealers' showrooms!

Many people have asked our Homemakers' Service what to look for when buying a new range. So here are some suggestions to help you decide which features will answer your needs most satisfactorily:

**Brand**—Select a range manufactured by a company which will stand behind its product if the range fails to operate as it should. Purchase from a franchised dealer with an established reputation.

**Warranty**—Be certain you understand the service to which you are entitled. Some ranges are sold with free service for a certain length of time. Certain parts may be guaranteed by the manufacturer for a period of time, but the warranty may not include the labor cost of finding the trouble and replacing the part. Modern appliances should be serviced by specially-trained repairmen.

**Free-standing range or built-in unit**—Free-standing ranges provide more flexibility in kitchen planning and take up less floor space. They may be transferred easily



**Stylerama '60**

YE-CATCHING majorettes, sparkling convertibles, thrilling marching music, and a bevy of beautiful girls, plus all of the other things that go together to make a real parade, combined recently to launch "Stylerama '60"—St. Thomas' outstanding annual trade and fashion show sponsored by the F/O Kenneth Lucas Chapter of the I.O.D.E. Among the celebrities at the big show was Miss Canada — Rosemary Catherine Keenan — who stopped to visit the exhibits of the St. Thomas Public Utilities Commission. Shown with Miss Canada are W. J. Underhill, general manager of St. Thomas P.U.C., and Miss Lois Hurst, Ontario Hydro's home economist (right).

when moving to another house. However, a built-in oven will save a great deal of stooping because it is installed at a more convenient height, easier to reach and simpler to clean. The cooking top should be set in a counter next to the main preparation area. The oven can be farther away because oven cooking usually does not need much attention. The oven should

be installed so that the lowest rack is about 4 inches below your waist. Some cabinet work is necessary, but cupboards above and below the oven are very convenient. Last year, one out of 10 ranges sold in Ontario were of the built-in type.

**Size**—The size selected should depend on the size of the family, the amount of baking and type of entertaining. The widths of free-

standing ranges are generally 24, 30 or 40 inches. The extra storage space and work surface found in a large range can often be provided more economically by a built-in cupboard beside the range. The widths of built-in ovens and cooking tops vary with each manufacturer. Double ovens and warming ovens are available in both types of ranges.

**Extra Features** — In deciding which accessories and gadgets are worthwhile, you should be guided by the amount of money to be spent, and how much satisfaction will be obtained from each item. Some housewives have ovens with automatic timers, but have no idea how to use the timers. A minute minder on the control panel is very handy, but be sure the numbers are large enough to see easily. A glass window in the oven helps you check while cakes are baking without opening the door. However, it also shows when an oven is not left clean! Rotisserie attachments are becoming popular. A plug-in meat thermometer assures the right degree of "doneness" in roasts. Thermostatically-controlled surface elements help to regulate heat. They are calibrated for use with medium weight aluminum pans. Deep well cookers and heat controlled griddles are conveniences, but consider carefully how often you are likely to use these types of appliances.

**Cleanability**—Ease of cleaning is extremely important. Many ranges have a raised edge to prevent spilled food from running over. Drip pans should be easily lifted out. Oven cleaning is no longer a back-breaking job. It is easier to reach into an oven where the door is out of your way either by folding down, removing or spreading sideways like French doors. Slide-out oven interiors and replaceable aluminum foil linings are good features. It is wise to find out if the interior of the oven can be treated with oven cleaner.

**Finish**—Porcelain enamel gives a

hard, glossy surface which is acid and alkali resistant. Synthetic baked enamel is less expensive and chips less readily, but is a comparatively soft, porous surface which wears at handles and edges.

When a range has been properly sold, demonstrated and installed in a home, it is then that the new owner's responsibility to give it the right use and care. It has been estimated that up to 40 per cent of service calls are due to the housewife not following the instructions. Frequently she calls in a repairman to fix the oven, only to find she has not set the automatic oven timer correctly, or she has not securely plugged in an element she removed to clean the oven. The instruction booklet has been very carefully prepared, and should be kept in a handy place, ready to use when needed.

We do hope these pointers will help you in choosing your new range. If our Homemakers' Service can be helpful again, it will be a pleasure to hear from you.

Yours sincerely,  
*Lois M. Hurst*,  
Home Economist, Ontario Hydro  
Homemakers' Service. ■

#### WE'RE BANKING ON GOOD IDEAS

(Continued from page 18)

improvements of one form or another.

Hardly the sort of figures a cartoonist could poke fun at! Yet they represent only a small portion of the plan's true value. For one thing the figures don't represent the value to Ontario Hydro of the many suggestions which have been accepted but whose value it is impossible to estimate.

Nor do they reflect the value of the plan in terms of the contribution it makes in improved communications between employee and supervisor. The latter may be asked to assist an employee in preparing his suggestion submission, in which case, his experience may help forge a suggestion which otherwise would be unacceptable.

In any event, it is the supervisor who is called upon for the eventual evaluation of the suggestion. Through this task, he develops the skill of looking objectively at his own job. The result, naturally, is improved judgment and a better understanding of the other fellow's problems. ■

#### Utilities report successful operations

In his annual report to the Lindsay Hydro-Electric Commission, Manager John Lightbody noted that the utility had a surplus of \$60,802 on its 1959 operations—an increase of \$29,000 over the previous year—leaving the system in a very sound financial condition.

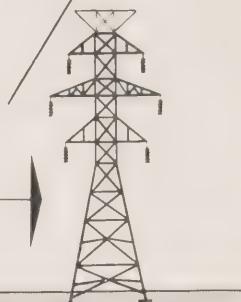
The effects of annexing McKim Township and a portion of Neelon Township are reflected in the 1960 operations of Sudbury Hydro-Electric Commission, which is now serving some 6,000 more customers than during 1959. With some 22,000 customers taking power from the Nickel City utility, the local commission recently approved the purchase of another billing machine to handle the increased volume of business.

Secretary-Treasurer H. A. Luckins, Sarnia H.E.C., reported recently that the number of metered services increased from 14,319 to 14,905 during 1959.

#### Sudbury Hydro donates electrical equipment

Sudbury Hydro-Electric Commission recently authorized the presentation of four electric ranges, two electric refrigerators, as well as an automatic washer and dryer to the Sudbury Mining and Technical School for the use of its domestic science students. The donation was part of a co-operative, province-wide Hydro program instituted in connection with the "Live Better Electrically" program (see *Ontario Hydro News*—April, 1960).

# ALONG HYDRO LINES



## Port Credit P.U.C. reduces rates

Hydro rates for Port Credit P.U.C. customers were substantially reduced on January 1.

Chairman E. C. Drew announced the new rates would result in an average reduction to residential customers of 9 per cent. All industrial power customers and most commercial customers will also experience lower monthly charges on the new rate schedules.

## York Township entry wins Bulletin Contest

Winner of the Electrical Utilities Safety Association Bulletin Contest, D. R. Sullivan, York Township, was recently presented with a \$50 cheque. Mr. Sullivan's suggestion that the Association's monthly paper be called the "Safe-T-Line" was declared the winner. Runner-up entries were the "Tailboard Tattler" submitted by Harold Hunt, Mimico P.U.C., and "The Safety Beacon" suggested by Clayton Hinsperger, Waterloo P.U.C.



## WHIRLYBIRD IN ACTION

ONTARIO's northwestern forests will soon echo with the "pocketa-pocketa" chatter of Ontario Hydro's recently-acquired Sikorsky 55 helicopter (*Ontario Hydro News*, April, 1960) as it sprays brush along 4,000 acres of transmission

line right-of-way. After the spraying project is completed later this year, the large whirlybird—which can carry seven passengers or a cargo of 1,600 lbs. in addition to its two-man crew—will be transferred to survey work. ■



## Long Service

STOCKKEEPER with Wallaceburg Hydro-Electric Commission for 37 years, James Bachus (second from left) retired recently. At an informal dinner in his honor, Mr. Bachus is counting the years of service represented by (from left): Frank Murdock, meter superintendent, 34 years' service; Drader Hawken, chairman, 14 years; and Douglas Stewart, manager, 40 years, a combined total of 125 years.

## NAME A.M.E.U. ENGINEERING CONSULTANT

A PROMINENT member of Ontario Hydro's engineering staff since 1947, Ray Coles has been appointed Engineering Consultant to the A.M.E.U.

Since joining the Commission staff 13 years ago, Mr. Coles has



RAY S. COLES

held several important positions in the Electrical Engineering and Stations Departments. In 1956 he was appointed Project Engineer, Distributing Stations, Distribution Department. This post provided experience that will be invaluable to him in assuming his new duties, which will involve collation of information on the latest engineering techniques relating to the design and construction of municipal utility electrical systems. One of Mr. Coles' first undertakings will be the assembly of up-to-date data on municipal substations for inclusion in the A.M.E.U. Guide to Municipal Standard Construction. This valuable reference manual, distributed initially to member utilities in 1955 and progressively revised since that time, has attracted international interest among representatives of electrical systems and manufacturing firms.

Born in Yonkers, N.Y., Mr. Coles received his elementary education in that city. After complet-

ing secondary courses of study in Somerset, England, he attended the University of Bristol, from which he graduated with degrees in electrical and civil engineering in 1930 and 1931. From 1931 to 1947, Mr. Coles was associated with two prominent British electrical engineering firms and the Central Electricity Board, being actively identified with the design and construction of substations and transmission systems.

An associate member of the Institution of Electrical Engineers, London, England, Mr. Coles is also a member of the Association of Professional Engineers of Ontario and the American Institute of Electrical Engineers. Married in 1936, Mr. and Mrs. Coles have two daughters.

Commenting on the appointment recently, A.M.E.U. President Harry Hyde, general manager of the Toronto Hydro-Electric System, said: "The A.M.E.U. deeply appreciates the decision of the Commission to place Mr. Coles' professional services at the disposal of our Engineering Board on a permanent, full-time basis. We are confident this new arrangement offers an opportunity for fuller liaison between Ontario Hydro and our association, and that it will prove mutually satisfactory and profitable in solving many of the complex engineering problems involved in providing a high calibre of service to the customers of the municipal utilities and those of the Commission." ■

### Form farm-electric club in Middlesex County

First of its kind in Ontario, the Middlesex 4-H Farm and Home Electric Club was organized at London recently with Donald Hord, R.R. 2, Ilderton, as President. Sponsored by the Middlesex Junior Farmers' Association, with the support of the Ontario Department of Agriculture and Ontario Hydro, the new organization

### Son becomes father's assistant in Markham municipal posts

On April 18 this year, Howard Graham, a member of Ontario Hydro's staff for the past 29 years, assumed the position of Assistant Clerk and Treasurer of Markham Village. In taking over these new duties, he became assistant to his father, Austin P. Graham, who has been village clerk-treasurer for more than four decades. Mr. Graham Sr., who also serves as Secretary of Markham P.U.C., went to Markham in 1907 as bookkeeper with a local wagon firm. He was named village treasurer in 1914 and clerk in 1917. Besides these duties, he served as Treasurer of the High School Board for 30 years and Clerk of the Division Court from 1930 until his retirement earlier this year. In addition, he served as postmaster at nearby Mount Joy from 1916, when the Graham family took over the general store in that community, until last fall.

His son, Howard, who was a member of the Markham R.O.A. staff for several years prior to his transfer to the Toronto (now Central) Region, is a graduate of Markham High School.

---

will shortly embark on a two-year project.

The first-year project will deal with the cost of operating various pieces of farm electrical equipment, and will include lectures, field trips and metering studies. Demonstrators will be D. A. Ramsay and John Chute, consumer service engineer and sales superintendent, respectively, of the Commission's Western Region, which has its headquarters at London.

Main objectives of the club are: Demonstrating a better understanding of the application and uses of electricity on the farm and in the farm home; to focus attention on the safe uses of electricity, and to develop leadership and foster community co-operation in agricultural problems.

## Donald Hines named Harrow Hydro manager

Manager of Tilbury P.U.C. since 1954, G. Donald Hines, 37, has been appointed Manager and Secretary of Harrow Hydro-Electric Commission. Mr. Hines succeeds Perry A. Lawson, who has served in the dual capacity of Ontario Hydro's Harrow Area manager and manager of the Harrow municipal utility for several years. Mr. Hines took over his new duties at Harrow on May 9. The appointment of a municipal utility manager has been necessitated by the projected closing of Hydro's Harrow Area office later this year, when this area becomes part of the enlarged Essex Area along with the present Essex and Kingsville areas. Mr. Hines, who has 15 years' experience in utility work at Essex and Tilbury, is a veteran of the Second World War, is married and the father of three children.

## Oakville's new lights far brighter than moon

Oakville's main thoroughfares will be better lighted in future as a result of a new program recently inaugurated by Oakville Public Utilities Commission in conjunction with the Oakville Town Council. The project involves installation of modern, 400 watt, color-corrected mercury vapor lamps along the principal business arteries. A pleasing effect is also being created by the use of concrete light standards instead of the old-type wooden poles.

In announcing the new lighting improvement program, Hilmer B. Lofquist, chairman of Oakville Public Utilities Commission, stated that the new fixtures will produce 165 times as much light as the full moon. These lights are so effective that a newspaper can be read without difficulty on the streets. The new lamps also eliminate deceptive shadow conditions at curbs and extreme edges of the sidewalks, Mr. Lofquist pointed out.



## HONOR RETIRING MANAGER

ANOTHER link with Ontario Hydro's early history was severed recently, when E. G. "Ernie" Gurnett retired as Manager of Hydro's East Central Region. With 44 years' service, Mr. Gurnett was one of the team of enthusiastic engineers who joined Hydro in its formative years, and were responsible for laying the groundwork of the present system.

Retirement will do little to diminish his interest in Hydro, he told friends and associates attending a retirement dinner in his honor at the Club Canara in Belleville. It will, however, give him more time for his hobbies.

Extending congratulations and best wishes on behalf of the Commission, Hydro's First Vice-Chairman, W. Ross Strike, presented Mr. and Mrs. Gurnett with a sterling silver tea service on behalf of Mr. Gurnett's colleagues and members of the East Central Region staff.

In the accompanying photograph, the retiring executive (wearing light suit) receives felicitations from a Hydro associate of long standing, O. S. Luney, retired manager of the Eastern Region.

Echoing Mr. Luney's sentiments were Mr. Gurnett's fellow regional managers, who came from every

section of the province to express their esteem (left to right): R. M. Laurie, London; W. H. Edwards, Hamilton; H. R. Graham, North Bay; A. M. Pedersen, Ottawa, and J. C. Ferguson, Barrie. On the extreme right is J. R. McCullough, Niagara Falls, while Adam W. Smith, Toronto, and D. I. Natress, Port Arthur, are in the second row.

## Two utility men join E.U.S.A. staff

Two new members have been added to the staff of the Electrical Utilities Safety Association. With 18 years' utility experience, Don E. Grantham has been named as a field supervisor, and will be located in southwestern Ontario when decentralization of the E.U.S.A. staff is completed. Mr. Grantham has been associated with Ontario Hydro, Brantford Township H.E.C., Brantford P.U.C., and Sioux Lookout H.E.C. since entering the electrical utility field. Employed in various capacities with North York Hydro-Electric Commission for nine years, James H. Osborne will take over important administrative duties at the association's Head Office in Toronto.



## RECEIVE HIGHEST HONOR

FOUR VETERAN Ontario Hydro engineers, Dr. Richard L. Hearn, Dr. Otto Holden, Dr. W. P. Dobson and J. J. Traill were honored by the Engineering Institute of Canada at its 74th annual meeting in Winnipeg, Man., last month. Dr. Dobson (left) and Dr. Hearn received certificates of Honorary Membership, one of the highest awards the Institute can confer. Mr. Traill (right) received the Robert W. Angus Medal for the best paper on a mechanical engineering subject. Dr. Holden, who could not attend, also received an Honorary Membership. ■

## CALENDAR OF EVENTS

SEVERAL organizations associated with the electrical utility field have announced dates for meetings and conferences during 1960. The following events will be of interest to readers of *Ontario Hydro News*.

Sept. 6-7	Georgian Bay M.E.A., Honey Harbour;
Sept. 8-9	E.O.M.E.A., Kingston;
Sept. 13-14	O.M.E.A. District 3 (Thunder Bay M.E.A.), Atikokan;
Sept. 21	Grand Valley M.E.A.;
Sept. 29-30	A.M.E.U. Accounting and Office Administration Conference (Western Division), Garden Centre, Vineland;
Oct. 12	O.M.E.A. District 7, St. Thomas;
Oct. 20	Northland M.E.A., North Bay;
Nov. 3	O.M.E.A. District 8, Riverside.
Nov. 16	O.M.E.A. District 4, Toronto;

*(Courtesy of the A.M.E.U.)*

## Hydro announces executive appointment

A. V. Crate, director of the Trade and Industry Branch of the Ontario Department of Planning and Development, has been appointed to an executive post in Ontario Hydro's sales promotion organization.

Mr. Crate's appointment as executive assistant to Roy Harmer, director of Sales Promotion, terminates a 14-year association with



A. V. CRATE

the provincial government in industrial development work, the last five as Director of the Trade and Industry Branch.

Recognized as one of the architects of the province's industrial development program, Mr. Crate was also responsible for immigration at the provincial level.

Currently Chairman of the Provincial Governments' Trade and Industry Council (a national body representing all provincial governments), Mr. Crate is a member of the Advisory Committee of the Ontario Research Foundation, the American Industrial-Development Council, and the Dollar-Sterling Trade Council. Born in Toronto, he attended the University of Toronto.

### Port Dover Hydro superintendent marks 30th anniversary

Superintendent Aaron McKnight, Port Dover P.U.C., recently observed his 30th anniversary with the local utility. While still a motorman with the Lake Erie and Northern Railway, Mr. McKnight qualified as an electrician and opened an electrical appliance and wiring business at Port Dover in 1930. He also became a part-time employee of the Port Dover system when he took over maintenance of the town's electrical system as well as the connection of new electrical services. In 1934 he was made full-time superintendent, and, for a time, had charge of the community's water department. Since that time, Mr. McKnight has supervised the rebuilding and expansion of the town's electrical distribution facilities to handle the increasing demands of the utility. When Mr. McKnight took over in March, 1930, Port Dover had 542 metered services compared to the present figure of 1,804.

### Waterloo P.U.C. manager resigns

Waterloo P.U.C. has announced the resignation of its manager, Ivan L. Bradley, after six years' association with the utility.

Mr. Bradley, who will relinquish his position at Waterloo during the coming summer, has accepted a post as an engineering supervisor with the International Power Company Ltd., Montreal, a Canadian power utility company, and will take up residence with his wife and two daughters at Maracaibo, Venezuela.

A graduate of Queen's University, Kingston, he served for three years as a radar specialist with the R.C.A.F. during World War II. For fourteen months he was Assistant Superintendent of Waterloo P.U.C. after joining the staff in 1954, being promoted to Superintendent in 1955 on the retirement of Eby Rush. He became Manager in January, 1958.



### Port Colborne Appointments

APPOINTMENT of Superintendent A. E. Fort as Manager and Secretary of Port Colborne Hydro-Electric Commission was announced recently. The Port Colborne utility also named David Thomas as Line Superintendent and Glen Doan as Meter Department Superintendent. Members of the local commission are shown seated during a recent meeting (left to right): Commissioner W. J. Smith, Chairman E. H. Barrick, and Mayor H. H. Knoll, with the new appointees, Mr. Doan, Mr. Fort and Mr. Thomas.

### Brockville Looks Ahead

CIVIC expansion and substantial increases in the electrical load of Brockville P.U.C. were responsible for construction of the utility's fifth substation, which was placed in service recently. In the accompanying photograph, four utility representatives (left to right): James Roughley, engineering department, with Commissioners Craig Garrett, Jack McLennan and J. R. Philips, watch as Brockville P.U.C. Chairman Walter Ashworth throws the switch to energize the 7,500-kva transformer. The \$59,200 substation, designed for additional capacity when necessary, will serve a large area of Brockville, embracing several large housing subdivisions where further expansion is expected this summer.





LY - AUGUST 1960

HOLIDAY WEEKEND 1990 A.D.

ONTARIO HYDRO NEWS



# ONTARIO HYDRO NEWS

## THE COMMISSION

JAMES S. DUNCAN, C.M.G., LL.D.  
Chairman

W. ROSS STRIKE, Q.C.  
First Vice-Chairman

HON. ROBERT W. MACAULAY, Q.C., M.P.P.  
Second Vice-Chairman

LT.-COL. A. A. KENNEDY, D.S.O., E.D.  
Commissioner

D. P. CLIFF  
Commissioner

J. M. HAMBLEY, B.Sc.  
General Manager

ERNEST B. EASSON, B.Com.  
Secretary

\*

## EDITORIAL BOARD

JAMES S. DUNCAN, C.M.G., LL.D.

DR. V. S. WILSON  
President, O.M.E.A.

HARRY HYDE, P.Eng.  
President, A.M.E.U.

J. M. HAMBLEY, B.Sc.

ERNEST B. EASSON, B.Com.

JAMES A. BLAY

BOYD L. GRAHAM

\*

Editor - BOYD L. GRAHAM

\*

SUBSCRIPTION: \$5.00 PER YEAR

Published by  
the Information Division of

The Hydro-Electric Power Commission of Ontario  
620 University Avenue, Toronto.

Authorized as second class mail, Post Office  
Department, Ottawa

Material published in Ontario Hydro News may  
be reprinted without permission.  
Most photographs are obtainable on request.



Member of the Canadian  
Industrial Editors Association  
and the International Coun-  
cil of Industrial Editors.



JULY - AUGUST, 1960

VOL. 47, NOS. 7 - 8

## CONTENTS

PAGE

Off the Wires	1
Editor's comments	
Right or Wrong?	2
An appraisal of Canada's heavy water reactors	
Learning to Live	8
Summer camps are a Canadian tradition	
Fire in the Sky	11
What price lightning?	
47-Year Career	14
Hydro's Dr. Otto Holden retires	
A Rose by Any Other Name	16
How your home town got its name	
Otter and After	18
Northern project moves ahead	
Publicity	22
A technique for better understanding	
Cook-Outs Can Be Fun	25
By Ontario Hydro's Homemakers' Service	
In Defence of our Forests	26
The story of a relentless battle	
Along Hydro Lines	30
Capsule review of utility operations	

## A WORD ABOUT THE COVER

IN a somewhat truculent mood, the editor challenged Staff Artist John Elphick to give us his impression of Ontario a quarter-century or more from now. Being air-minded and rather vacation-conscious at the time, it was natural that John should come up with the interesting cover illustration for this issue.

# OFF THE WIRES

As this issue goes to press, preparations are nearing completion for the official inauguration of a new Canadian spectacular—the Arcade of Light—which makes its debut at this year's Canadian National Exhibition.

\* \* \*

THE ARCADE OF LIGHT is actually a lighted, outdoor area—183 feet long by 84 feet wide—between the C.N.E.'s Electrical and Automotive Buildings. It's being billed in advance notices as the brightest spot on earth. For example, authorities point out that a section of Chicago's State Street, which has been described as the "brightest-lit" street in the world, has only 15-foot candles of illumination. The new Arcade will have 60-foot candles—four times the Chicago level.

\* \* \*

CO-SPONSORS of the project are the Canadian Electrical Manufacturers' Association, the C.N.E. and Ontario Hydro. The lighting-up ceremony at 9:00 p.m. on August 24 will climax a full day of activities arranged to mark the official opening of this year's C.N.E. Ontario's Prime Minister, the Hon. Leslie M. Frost, will press the button to light up the arcade during the inauguration event.

\* \* \*

SO GET OUT your dark glasses and your cameras, folks, and come along to this "dazzler";

flashbulbs won't be necessary, as authorities promise there will be plenty of available light in the Arcade for normal daylight shooting.

\* \* \*

AND WHILE WE'RE on the subject of lighting, we have just heard of a new use for outdoor illumination that would have put St. Patrick, Erin's patron saint, out of the running. It appears that a Texas airfield (how is it so many tall stories come from Texas?) was having trouble with rattlesnakes crawling on to the warm concrete runways at night. An enterprising electrical sales representative sold the airfield officials eight floodlights. That solved the problem. Snakes dislike lights, so the rattlers gave up snoozing on the runways.

\* \* \*

EVEN THE LIGHT-FINGERED TRIBE are "going for" electrical appliances these days. A recent issue of the *Amherstburg Echo* reported that thieves entered an Anderdon Township home, and made off with several pieces of electrical equipment. The TV set was in the kitchen waiting to be carted off when the owners suddenly returned.

\* \* \*

BOB SMART, "our man in London", who sent us the Amherstburg clipping, coyly suggests that such occurrences

demonstrate that "even members of the underworld are convinced that electrical appliances are their best bet." You've been talking to those Sales Promotion people again, Bob!

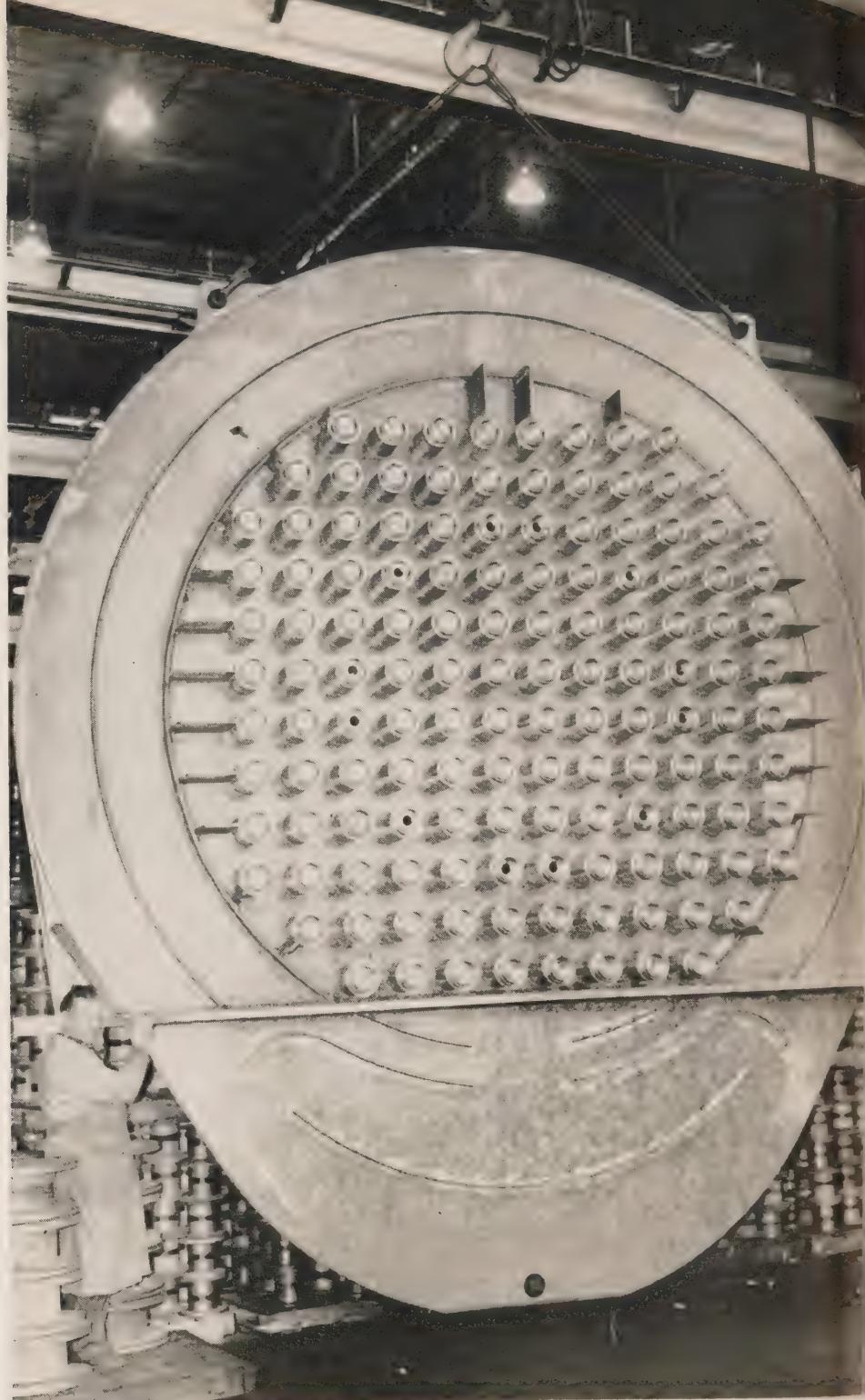
\* \* \*

FRIENDS of Ontario Hydro Commissioner D. P. Cliff, particularly a host of O.M.E.A. and A.M.E.U. colleagues, will be pleased to hear that he is making a slow but progressive recovery from his recent illness. He hopes to be in shape to attend the O.M.E.A. district meetings this fall. We're all pulling for you, Bud.

\* \* \*

AND NOW for just a brief reference to our article on lightning, which appears on page 11 in this issue. There's a wealth of interesting information we couldn't include because of space limitations. Going through our files on the subject, we came across some surprising facts on a 1953 tornado in Massachusetts, U.S.A. After the storm had retreated out to sea it was noted that the lightning strokes (some of which were at least 10 miles long) were occurring at the rate of 10 to 20 per second. From the current and voltage known to exist in lightning strokes, it was estimated that the storm was generating 200 million kilowatts—more than equivalent to the rate of electric generation for the entire nation at the time.

INSIDE well wall of the reactor  
being installed in Nuclear Power  
Demonstration Plant near Rolphton, Ont.,  
which is scheduled for  
operation in 1961.



**HEAVY  
WATER  
REACTORS**

**RIGHT OR WRONG**



by J. L. Gray  
president, Atomic Energy of Canada Limited

*Extract from a paper presented at the third inter-American symposium on the peaceful application of nuclear energy at Rio De Janeiro, Brazil, on July 21, 1960, by Donald Watson, secretary, A.E.C.L.*

**S**INCE the beginning of the atomic energy era, Canada has specialized in heavy water reactors. I believe that most people have now come to regard us as the foremost exponents of heavy water systems. Our co-operation with the United States and the United Kingdom has given us ample opportunity to study other reactor types, but we see many advantages for heavy water systems under our particular circumstances. *We are convinced that, as of today, our approach to nuclear power is the best for Canadian conditions.*

What do we mean by "Canadian conditions"?

Canada is the world's second largest per capita consumer of electrical energy, and we have been blessed with extensive hydroelectric potential and fossil fuel resources. Many of these power sources are still untapped, but, unfortunately, some of the major load centres are located too far from them to make their use economic. We expect that the

demand for electricity will continue to rise by at least six per cent per year, so that, by 1980, Canadian utilities will have to provide for at least triple the present capacity. In areas that have fully harnessed local resources of water power and have no indigenous fuel, this increase will have to be supplied by long-distance transmission of hydroelectric power, by imported or transported fossil fuel, or by nuclear power. Canada has uranium reserves that rank with the largest in the world, giving us added incentive to put uranium in the position of being a competitive fuel.

Fortunately for nuclear energy in Canada, the largest demand for additional power in the near future will come from an area that already depends on imported coal for its lowest cost thermal power. This is the Southern Ontario System of Ontario Hydro, which is now generating electricity from

*(Continued on page 4)*



AERIAL VIEW of the Chalk River establishment of Atomic Energy of Canada Ltd. on the Ottawa River.

United States coal at a cost of five to six mills per kilowatt-hour. The Ontario Hydro system is large, and, by 1965, will be able to absorb further large base-load units of energy. It is also publicly-owned, and obtains relatively low financing charges on its capital investment. These two conditions—that is, large base-load stations and low financing charges—are ideally suited to the application of nuclear power, and it remains for us to show that nuclear plants can compete with five to six mill power from coal-fired stations.

Within the next 10 years some of the other utilities in Canada will be approaching the present condition of the Ontario Hydro system. However, generally speaking, they have smaller systems, and, to varying extents, still have conventional forms of power readily available. The Province of Manitoba is the next area likely

to need nuclear power, followed closely by one of the utility systems in the Atlantic Provinces.

Atomic Energy of Canada Limited is not in the business of owning or operating power stations. Our function is to carry out the necessary research and development work so that we can make available to Canadian utilities, manufacturers and consulting engineers, the knowledge and experience needed so that nuclear power can be adopted when the time is right. It is within this context that we have been carrying out our nuclear power program.

#### Reactor History

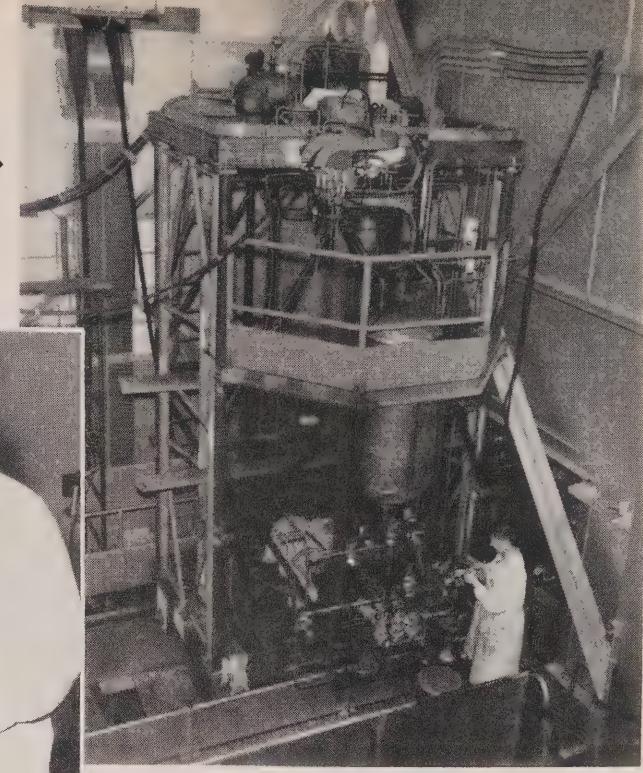
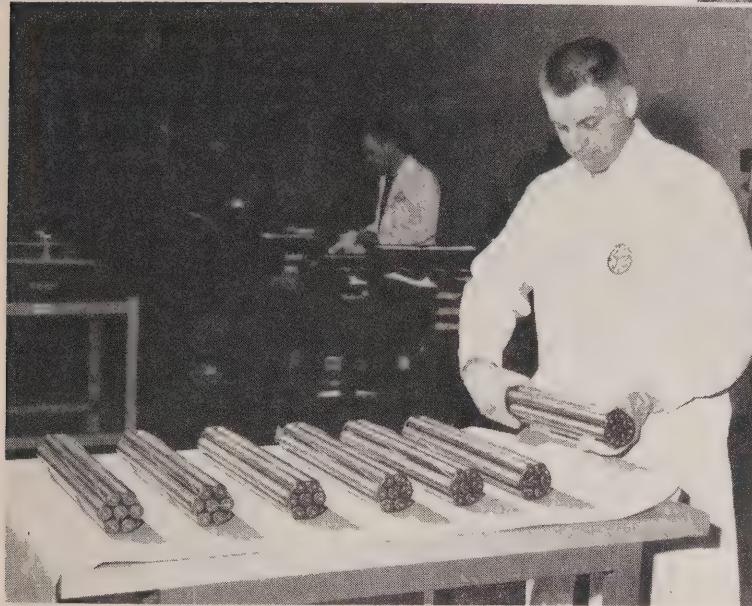
We operated our first heavy water reactor at Chalk River, our main nuclear centre, in 1945. In 1947 we started NRX, which was for many years the most powerful research reactor in the world. In

1957 we started operating the 200,000-kilowatt NRU reactor, which, in turn, became the world's most powerful research reactor, and was also the first to change fuel under full power. *Our work with NRX and NRU has shown us that the heavy water, natural uranium approach offers some very distinct advantages.*

The fundamental advantage is the high neutron economy that is available in a heavy water system. In generating power, wasted neutrons mean wasted dollars. Every neutron lost means that an additional fissile atom must be supplied. We benefit in several ways from neutron economy, but the net result is that we expect to fuel our power reactors for about one mill per kw-hr. This is the key to our program.

The use of heavy water also allows us to fuel the reactor with natural uranium rather than hav-

FUEL ELEMENTS for the Nuclear Power Demonstration Station (below) and the carriage of one of the fuelling machines at the plant (right).



ing to depend on expensive enriched fuel. This, in turn, leads to significant and obvious advantages that go beyond the fact that it will give us low-cost power. For example, we are quite happy not to be faced with a large fuel reprocessing complex and its attendant problems of waste disposal, for some time to come.

There are, of course, some disadvantages. In particular, the higher capital cost per kw of heavy-water moderated systems leads to higher annual fixed charges. However, these may be offset by savings in unit fuel costs. Until these stations have proved successful and several are required, the quantity of heavy water is insufficient to justify the installation of production plants in Canada, and we will have to import it from the United States. However, the relative dollar value of United States imports for a 200,000-kw

station using heavy water, as compared to a thermal base-load station burning United States coal, is about one to ten. We might import \$15 million of heavy water over the 30-year life of the station, compared to perhaps \$150 million of coal imports.

Our first major step along the road to developing power reactors is the construction of a prototype station called NPD (Nuclear Power Demonstration), about 20 miles from Chalk River, which will generate 20,000 kw of electricity. Its construction is well along, and we expect it to operate next year. It will not generate economic power, but it will provide us with information on the reliability and operating characteristics of the design and the economics of the fuel cycle. Canadian General Electric Company Limited is doing the detailed design, and is AECL's main contractor. Ontario Hydro

is supplying the conventional part of the plant, and will operate it.

#### Second Project

Our second project is a full-scale station, generating 200,000 kw from a reactor similar in most important respects to NPD. Construction has started at Douglas Point on the eastern shore of Lake Huron, and the station is scheduled to begin operation in 1964. It will be known as the Douglas Point Nuclear Power Station: the reactor is known as CANDU (Canadian Deuterium Uranium).

Our latest cost estimates, based in part on some firm bids, show a cost of about \$80 million for the Douglas Point station, of which approximately \$50 million is for actual construction, and the remainder for contingencies, dollar inflation, engineering, commissioning, and interest during construc-

(Continued on page 6)

tion. We expect this plant to produce power in the Ontario Hydro system at between six and seven mills per kw-hr, depending on the actual interest rate during construction and the appropriate lifetime interest rate in effect when the station is completed. If we doubled the station size by adding a second unit (which has been allowed for in the design), the unit power cost would come down by 12 to 15 per cent. We expect later versions of this design to give us power for less than six mills per kw-hr.

AECL is building the Douglas Point station with close co-operation and some financial assistance from Ontario Hydro. As with NPD, Ontario Hydro will operate it, and buy the power produced on agreed terms. It has also agreed to purchase the Douglas Point station from AECL after about three years of operation, when the plant has demonstrated its reliability.

I now want to tell you of some of the important features of our reactor design, to indicate that our confidence is backed by much solid evidence.

To begin with, we expect that by paying very close attention to neutron economy we will achieve

a burn-up of 10,000 megawatt days per ton from our Zircaloy-clad, natural uranium oxide fuel without re-processing. This is compared with 3,000 to 4,500 megawatt days per ton in other natural uranium reactors. We know we can provide enough reactivity in a heavy water, natural uranium system to meet this limit, without being troubled by fission-product poisoning. We have also done a large number of irradiation tests on the proposed fuel under power reactor conditions, which confirm its good dimensional stability and corrosion resistance.

#### Low Fuel Costs

Achievement of high burn-up with natural uranium is the major factor in reaching low fuelling costs. With the very high burn-up that is possible in a well-designed heavy water system, fuelling costs are so low that the irradiated or spent fuel may be treated as a waste product. Although there is still some uranium-235 and some unburned plutonium remaining, it is doubtful whether, at this stage of nuclear development, it would pay to process the fuel and face the problems of waste disposal, plutonium recycling, and an in-

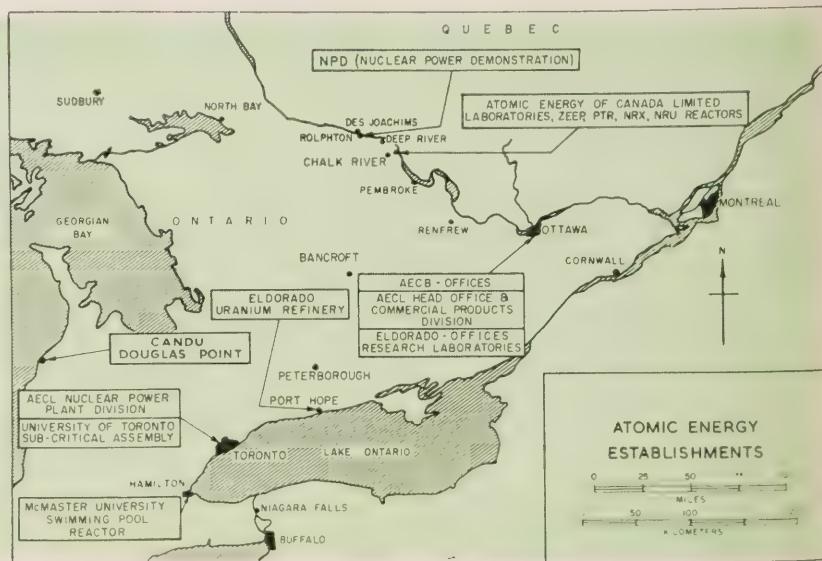
ventory of depleted uranium. Our system treats the burned fuel as waste and does not allow any credit for plutonium value. It is planned to store the irradiated fuel in water storage basins, where it will be available if, at any time in the future, systems are developed that can use the contained material.

Having operated heavy water systems in complicated research reactors for a number of years, we confidently expect relatively low loss-rates of heavy water. Our philosophy has not been to design power reactors for zero leakage, with all its attendant problems of totally sealed pumps, valves and joints, but to design for minimum leakage through fairly normal equipment, and to arrange for collection of any leaks in a vapor-proof space properly designed for recovery of both liquid and vapor.

We are quite confident about the success of fuel-changing under power without the loss of heavy water. This is now a routine operation in NRU. Many of the U.K. gas-cooled reactors are being designed to employ fuel-changing on power.

Finally, we expect the overall station efficiency for the full-scale

**ELDORADO**—Eldorado Mining and Refining Limited.  
**CANDU**—Nuclear reactor in Douglas Point Power Station.  
**AECL**—Atomic Energy of Canada Limited.  
**AECB**—Atomic Energy Control Board.



plant at Douglas Point to be 29.1 per cent. This is based on a guaranteed 33.3 per cent turbine efficiency from our turbine manufacturer.

### Confident in Design

You may see, then, that we have many reasons for confidence in our design, and in our prediction that even the first CANDU fuel loading will contribute little more than one mill per kw-hr to the total power cost. This is accompanied by approximately another one mill per kw-hr for operation and maintenance, including heavy water make-up, a figure that is typical of most current power reactor designs.

CANDU is similar to NPD. Both will use pressure tubes of  $3\frac{1}{4}$  inches (8.25 cm) inside diameter in order to accept the same fuel elements, which are bundles of rods about 20 inches (50 cm) long, made up of uranium oxide pellets in a Zircaloy tube. The individual rods are 0.6 inches (15 mm) in diameter.

This basic reactor design is not

the only one we are working on. For one thing, we do not expect it to be competitive in sizes much below 200,000 kw. In the medium-size range that many Canadian utilities will need, we believe the heavy water moderated reactor with an organic coolant holds considerable promise. We have engaged a company to carry out a preliminary design and development study to help us to decide whether to build an experimental reactor—which would be called OCDRE, Organic Cooled Deuterium moderated Reactor Experiment. It would enable us to confirm, among other things, the chemical stability of various organic liquids under irradiation, and their compatibility with sheathing materials at high temperatures. Of course, we know that the neutron economy and, hence, the fuelling cost, will not be as favorable as that of the CANDU design, but the capital cost should be lower. As a result, power costs may well turn out to be quite acceptable.

We are also looking into the

possibility that cooling a heavy water reactor with steam may offer advantages.

In summary, we are confident of our power reactor design for several important reasons.

- (1) Heavy water is the best moderator from a nuclear point of view, and we use it.
- (2) We use natural uranium because it is the lowest cost form of nuclear fuel:
  - (a) As oxide it is very reliable,
  - (b) it can be carried to high burn-up in our reactors, and
- (c) the fuelling cost is so low that the spent fuel may be thrown away; no costly chemical separation and no complex scheme of fuel buy-back or plutonium credit is necessary.
- (3) Our 15 years of experience satisfy us that heavy water losses can be held low enough to contribute little to the cost of power.
- (4) We know that we can generate steam of sufficiently high temperature and pressure to give satisfactory station efficiency. With this background, we are convinced that our CANDU reactor design will generate lower cost power than any other existing design for Canadian conditions of large base-load stations in a utility system with low capital charge rates.

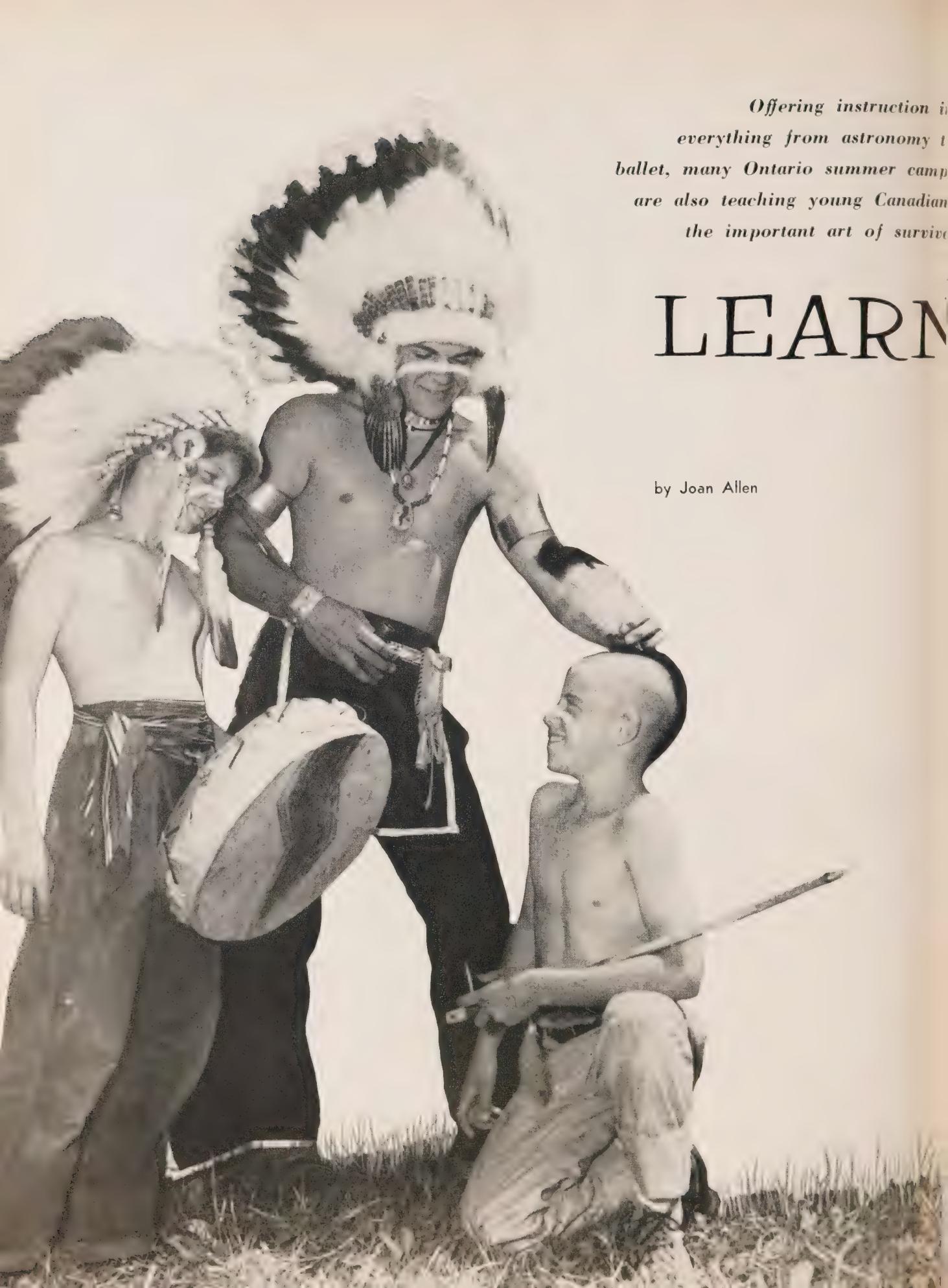


SOME of the 2,099 U-shaped tubes which form part of the heat exchanger manufactured at Galt by Babcock-Wilcox and Goldie-McCulloch for Canada's NPD reactor. The ends of the tubes pass through eight-inch-thick steel tube plates (not shown). A total of more than half-a-mile of precision drilling was necessary to prepare plates for tubes.

*Offering instruction in  
everything from astronomy to  
ballet, many Ontario summer camps  
are also teaching young Canadian  
the important art of survival*

# LEARN

by Joan Allen



# NG TO LIVE

AIRMEN and soldiers aren't the only Canadians who know the art of survival in the country's lonely spaces.

Only a few weeks ago, a nine-year-old Winnipeg boy was rescued in the Northern Manitoba wilderness after a 15-day vigil beside the wreckage of an aircraft and the bodies of his father and the pilot.

Young Walter Sedor, thanks to his Cub training, managed to keep alive by eating roots and drinking water from puddles.

And there are thousands of boys and girls in Canada whose chances of survival under similar conditions would have been equally good and perhaps better. They know how to build a fire and keep it going, how to find bark, roots and leaves suitable for eating, and how to fashion a shelter out of materials at hand. As Boy Scouts and Girl Guides, they have learned how to live in the woods—and like it.

In Ontario alone, there are 514 individual survival-type Scout camps, and 500 similar Girl Guide camps. Here, every summer, over 73,000 youngsters pitch their tents, and settle down to a rugged life in the great outdoors. The boys scorn even the luxury of a cook-

*(Continued on page 10)*



GIRLS ARE TAUGHT A VARIETY OF SKILLS AT THIS SUMMER CAMP.



BOY SCOUTS ON A CANOE TRIP PREPARE THE NOON MEAL.

house, and take turns "whipping up" meals for their fellow campers. One Ontario camp takes boys out on two-week trips into the wilds of Algonquin Park. At another camp, also in Algonquin Park, the girls even build their own cabins.

For the boys and girls who want to "rough it" in a setting which would do a summer resort proud, there are dozens of private camps in Ontario. And they offer horseback riding, golf, archery, tennis, waterskiing and basketball, besides the usual summer sports. Some camp directors are even adding geologists, astronomers and bird experts to their staffs.

Pint-sized Paladins can learn to ride and throw a mean lariat at private dude-ranch camps. One camp with a Gaelic flavor stresses Scottish folklore. Campers even go to sleep and wake up to the distinctive strains of taps and reveille played by a kilted piper.

Culture and campfires go hand-in-hand at certain specialized camps, where the young "guests" spend half their time studying ballet, music, drama or painting, and the other half in regular camp activities.

The cost of camping varies according to the type of camp. Some, such as underprivileged and handicapped children's camps, are free. Others operate on a pay-what-you-can policy. And the rest charge anywhere from \$15 for one week to \$610 for eight weeks at the more exclusive private camps.

The Ontario Camping Association is responsible for certain minimum standards in health, safety measures and staff for its 147 member camps. One of them, Camp Tonakela, is not in Ontario at all, but near Madras, India. It was set up 25 years ago by an experienced Y.M.C.A. worker, Wallace Forgie, to demonstrate Cana-

dian camping methods. Operating year-round as a non-profit service camp for girls and boys from eight to 17 years of age, it is also a camp for crippled and convalescent children.

In any of Ontario's 600 camps, the fun of camping lies in the cherished traditions, the legends and the private jokes. Indian council fires, feathered headdresses, swimming, the "ghost" which haunted the dining hall, or the time Judy met a family of skunks in the woods—all these meld to provide ex-campers with poignant memories.

And in anticipation of these recollections, campers everywhere stare into dying campfires and softly sing an old favorite which ends:

*"Memories that linger, constant and true.  
Memories we'll cherish, of camping and you."*

CAMPFIRE AND A SING-SONG CONCLUDE DAILY ACTIVITIES AT MOST SUMMER CAMPS.



**Lightning—"a phenomenon of Nature's laboratory"**

# FIRE IN THE SKY

**W**HAT is lightning? The Greeks had an explanation for it: Zeus, the supreme god in Greek religion, was driving his chariot across the cloudy sky, throwing thunderbolts right and left in a fit of pique. The Romans plagiarized the Greek theory by declaring it was Jupiter who was in a nasty frame of mind.

Many North American Indian and African tribes worshipped lightning as the personification of their god. But one particular North American tribe, the Tingit or Tlingit Indians, capped all theories about this phenomenon of Nature with their belief that lightning emanated from the winking eye of the thunderbird.

Of course, modern scientists have been able to blast these ancient explanations right out of the sky. Benjamin Franklin, American statesman, scientist and writer, established the connection between lightning and electricity by flying a kite during thunderstorms. This was but one of Franklin's many notable experiments, which won him international acclaim from British and European scientists.

Research since Franklin's time has provided a mass of additional data on lightning, which is defined as a large electric spark or discharge between a cloud and the ground, or between two clouds. As the lightning stroke "searches" its path through the air, it may give visible light for  $\frac{1}{100}$  second or more.

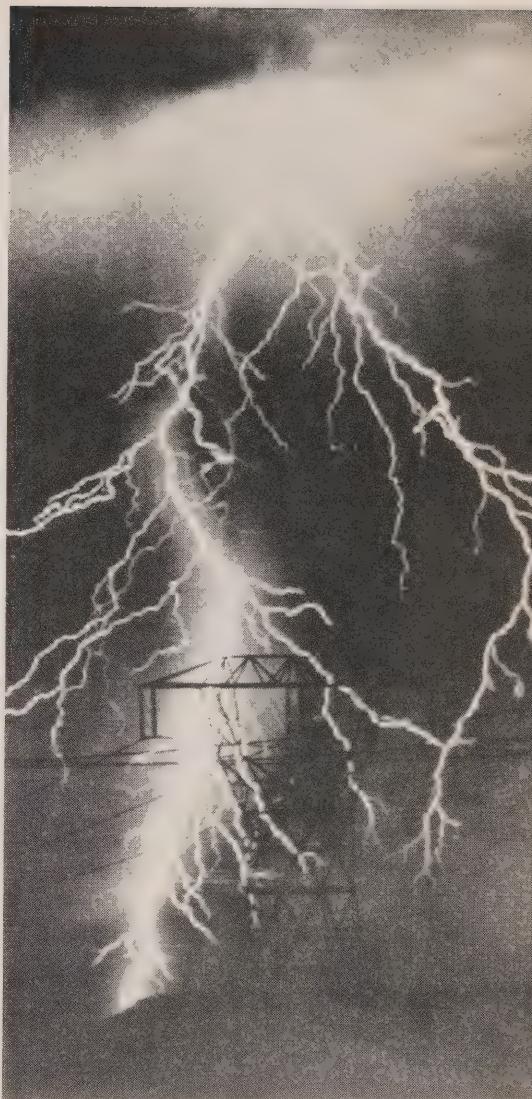
Representatives of Ontario Hydro's Research Division, who main-

tain a constant study of the vagaries of lightning and its oft-time damaging effects on the Commission's transmission and distribution networks, will tell you, for instance, that lightning could lift a piece of equipment weighing as much as 100 tons to a height of 4,000 to 5,000 feet once the stroke establishes its path through the air. This little feat usually happens in about  $\frac{1}{10,000}$  of a second. Little wonder when one considers that the voltage between cloud and ground, which causes a stroke, may be more than 100 million volts, and the current in the stroke may be up to 100,000 amperes. Such an explosion naturally creates considerable noise, which modern man calls thunder.

## Cause of Lightning

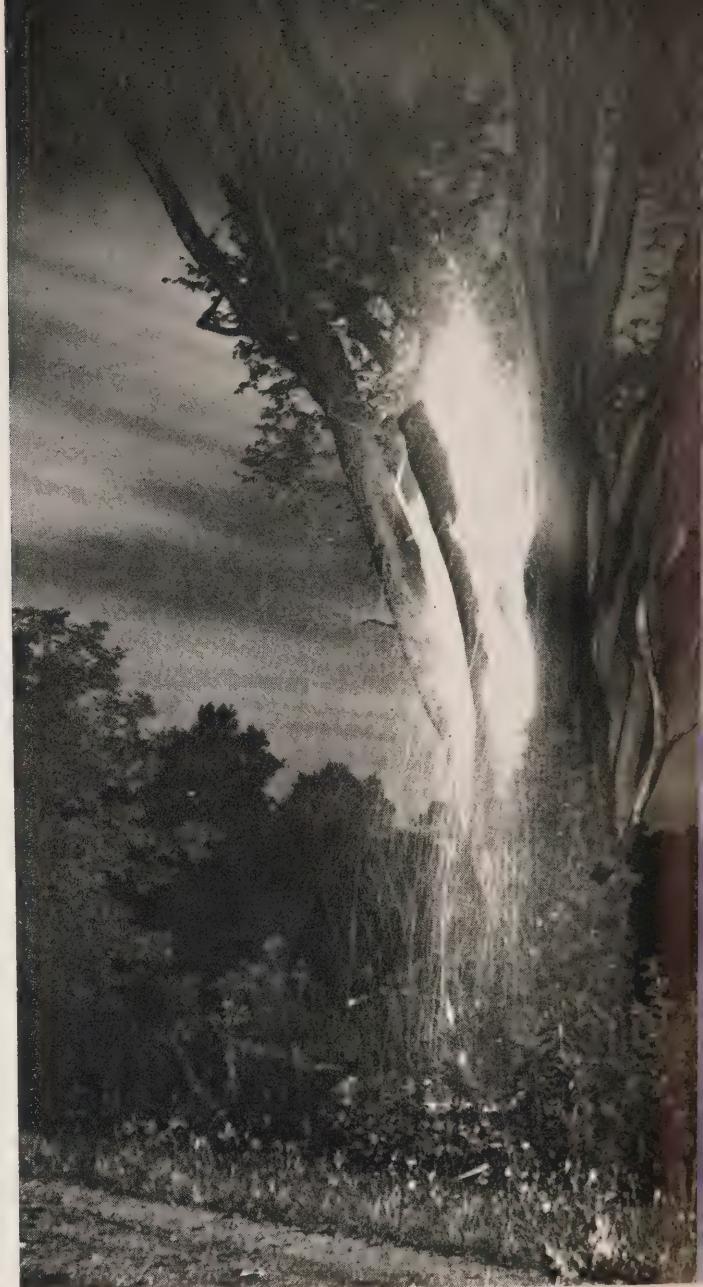
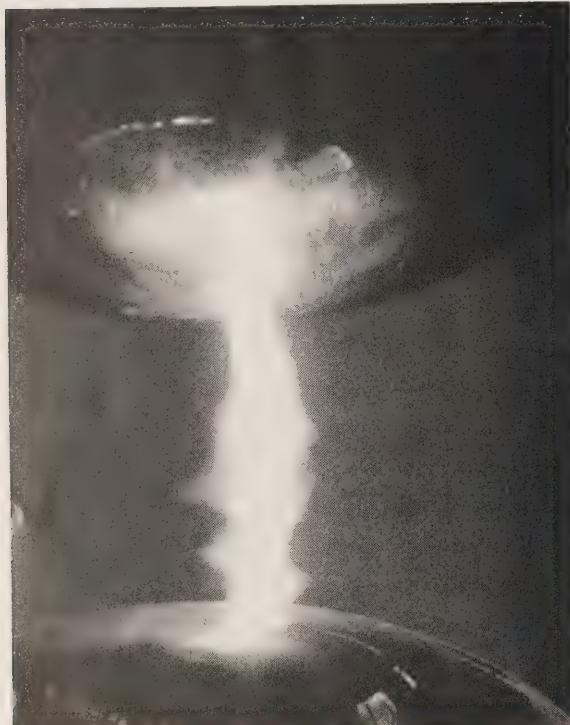
What causes lightning? There has been a great deal of investigation to determine the cause, and many theories have been put forth, but none of them have been generally accepted as the complete explanation. Some research specialists point up the fact that friction between certain substances and rapid changes in temperature in certain mixtures are known to produce separation of positive and negative electric charges. Furthermore, the friction of a person's shoes along a dry carpet often produces a charge which manifests itself in the minature but uncomfortable "lightning stroke" to a door knob or elevator button. These known facts form the basis

(Continued on page 12)



**LIGHTNING** is the perennial foe of utility and communications systems.

AT HYDRO'S Research Division laboratories, members of the Electrical Research Department staff can simulate lightning with an impulse generator capable of voltages up to 800,000.



for one of the most common theories that lightning occurs when a body of cold air moves into a region of warm air, inducing turbulent air currents and rapid changes of altitude, which, in turn, subject water drops in the air to friction, to disintegration, and to rapid temperature changes.

But more important is the effect on those objects which lie in the path of a lightning stroke, particularly those which offer substantial resistance to the passage of electric current. This quirk of Nature is

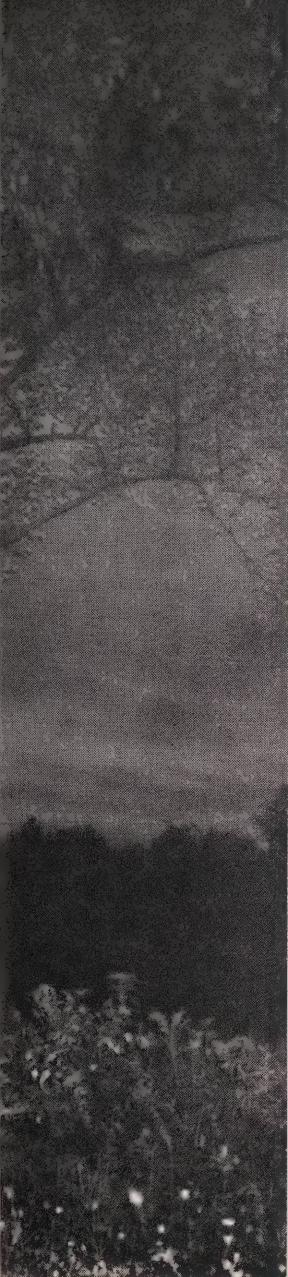
one of the many threats with which humans and animals must contend, as the high electric current produced by lightning will burn the body and stop its normal functioning.

Some other objects are more fortunate. In dense brush, for example, a lightning stroke is commonly shared between a number of trees, and it may do no harm except to scorch the upper twigs. An isolated tree or pole may not fare so well, possibly shattering under the impact of lightning,

which also contains sufficient force to damage brick structures. Wet trees or poles present less resistance, and, in most cases, are subject to less damaging energy. Similarly, steel towers and automobile bodies are good conductors, and suffer little damage from lightning charges.

#### Eternal Foe

When it comes to electrical transmission lines and associated apparatus, however, lightning is regarded as an eternal foe. In fact,



ISOLATED trees and poles  
are frequently shattered by the force  
of a lightning stroke.

## Advice for the Lightning Lorn

ON the subject of minimizing the effects of lightning, Research Division engineers offer the following advice: "To protect himself when lightning may strike close, the human should consider that he is a better conductor than a tree, but not so good as any metal; however, he can be injured by a very small share of the lightning current passing through him. If on open ground or out in a boat he should lie down. He should keep away from any isolated trees, lest a stroke travel part way down one and then prefer him as the last part of its path. He is reasonably safe in a forest, especially among the lower trees and sitting down midway between the nearest trees. A high, grounded metal object or tower will provide him with a protective "tent", but he should not touch it lest it share a lightning current with him; and he had better sit, or stand with feet close together, to avoid sharing high currents in the ground. Swimming is highly dangerous, as high currents may travel through the water from nearby strokes; if caught far out in the water, probably the best that a person can do is to float curled up, or at least vertically; lying or swimming horizontally is worst." ■

electrical utility and communication system technical personnel are unanimous in their opinion of lightning as "a perennial threat and an unmitigated curse." It's true that lightning strokes travel easily along unprotected conductors, but, unfortunately, they flash across or damage the insulation which resists them. Then, too, the power system's own current finds an easy path in the flame of any flashover, and may follow through to aggravate the lightning damage.

Lightning protection measures

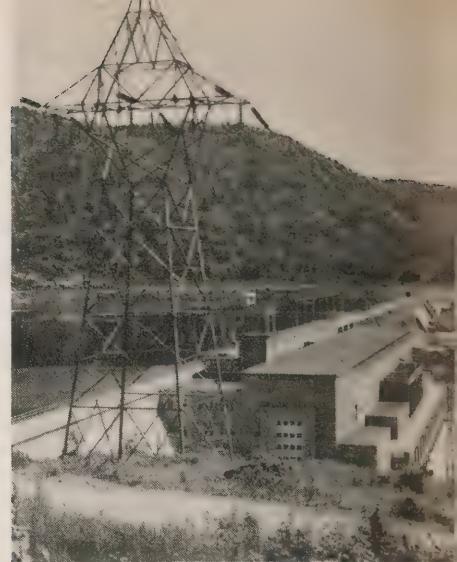
for electrical systems and buildings are based on the principle of providing the easiest possible path for carrying lightning past the object to be protected.

Lightning rods, which were devised by Benjamin Franklin, do just that when they are mounted on roof tops and other high places. Although they do not prevent lightning strokes, lightning rods or well-grounded TV antennae exert a local influence in directing the lightning to the air terminals and then safely to the ground.

The same principle is followed for the protection of Ontario Hydro's transmission lines. The number of direct lightning hits is minimized by a skywire or aerial ground cable strung above the line. It provides a shielding for the lines by attracting the lightning strokes and directing them straight to the ground through the tower structure. For further protection, tower footings go down seven feet, and, in regular soil, steel rods are attached to these

(Continued on page 36)

THIS 210,000-kilowatt Ottawa River development near Mattawa, Ont., was named in honor of the eminent hydraulic engineer in recognition of his services to the Commission.



**Hydro's Otto Holden says farewell after a**

# 47-YEAR CAREER

ONE October morning in 1915, a young Ontario Hydro engineer was shivering as he jotted down water levels at the new Eugenia Generating Station. But when his notes dropped into the icy tailrace, he just gritted his teeth and plunged in after them.

At 68, he looks as though he'd do it again today.

He is Dr. Otto Holden, who retired July 15 as Ontario Hydro's chief engineer after earning worldwide respect during a 47-year career that involved almost every major hydro-electric project in Ontario.

"They have been satisfying, rewarding years," he remarked shortly before retiring.

"No engineering work is the product of one man's hand or brain, but it's good to know you contributed your talents—to look back on a difficult job and see how it helped a province develop."

Vigorous, determined, warmly humorous—and an engineer to the

marrow—he has never regretted "staying where I was happy" despite tempting offers from outside Hydro as his reputation grew.

Otto Holden joined the Commission in 1913 as a draftsman after graduating from University of Toronto with his B.A.Sc. and postgraduate degree of Civil Engineer. He was 22 years old and Hydro only seven, one of a group of about 75 dedicated men crammed into the top two floors of Toronto's old Continental Life Building at Bay and Richmond streets (now being demolished).

His first big job was also Hydro's first, building the now-defunct Wasdell Falls G.S. on the Severn River.

"I grew more grey hairs over that 14-foot dam than any I've worked on since," he grinned recently. "There were no great problems, I guess, but everything was brand-new to me, and it seemed a tremendous undertaking."

From Wasdell Falls, with the lowest head Hydro ever developed, he went on to the construction of the Commission's second generating station—Eugenia G.S. on the Beaver River, which still has the highest.

The plant was buried in one of Ontario's deepest valleys, and, apart from this October morning dip, Dr. Holden's main recollection is "walking up those hills and collapsing when we got to the top."

These were "horse and scraper" jobs, training courses for the big Hydro projects to come. The staff, meanwhile, had been spreading to several buildings near the present 18-storey headquarters on University Avenue, and Dr. Holden's responsibilities expanded steadily.

In 1918 he was put in charge of designing hydraulic plants. His ability was demonstrated fully on Cameron Falls G.S. on the Nipigon River, and later on the Queenston-Chippawa plant at Niagara, then

(Continued on page 31)



SHORTLY AFTER Dr. Holden joined the staff in 1913, he was assigned to work on the Wasdell Falls plant on the Severn River, the first hydroelectric station undertaken by Ontario Hydro.

AT 68, Dr. Holden still looks ready to tackle another project.



# "A ROSE BY ANY



IT is an accepted fact that the citizens of Wawa, Ontario, are as hospitable and law abiding as the citizens of any other community. But, perhaps the quickest way to incur their eternal displeasure is to make snide reference to the name of their town, or to the meaning of the name. On such unfortunately frequent occasions their civic wrath is terrible to behold.

One can imagine, then, the number of flipped wigs and apoplectic explosions there were when certain irresponsible citizens of the town (by Wawa standards mostly tourists, i.e. people who had lived in the town less than all their lives) suggested that the name should be changed to Jamestown. The Wawa protagonists were particularly angered by the fact that the upstart newcomers couldn't give at least 1,000 irrefutable reasons for the innovation.

Instantly the community exploded into a verbal civil war. However, casualties appear to have been confined to a few thousand finger nails bitten down to the elbows and aching tongues.

Wawa is Indian for "wild goose", which appears to be consistent with all the usual inconsistencies of the Indian language: like Pagwa, meaning "dark water" and "shallow river," and "how," meaning almost anything. The tribal origin of the name Wawa has never been satisfactorily ascertained, but at least two reliable authorities have established it was not the poet Longfellow!

Three centuries ago Indian names were in vogue across Canada, but, after some 2,000 moons had passed, the fashion waned rapidly. Albeit, a substantial percentage (55 per cent) of our present-day names are still Indian or of Indian origin. Ontario itself

is an Indian word meaning "sparkling water" or "handsome lake," but definitely not "Upper Canada" as some biased historians would have us believe.

Ottawa, formerly known as Bytown, comes from the Indian word "adawe," meaning "place of the traders." This was, of course, before our national leaders learned that the easiest way to get money is to mint it and collect taxes at the same time. Toronto means "place of many meetings," which is appropriate for Canada's convention capital. Certainly anybody standing at Bloor and Yonge Streets around noon any day would agree that its present name is more appropriate than its former one of York.

It would be unwise for the people of Peterborough to return to the Indian name for their city, which was once called Nogojiwawong; the first two syllables might easily

# OTHER . . . "

by Rory O'Donal



kill one of their principal industries: that of building sleek watercraft which "do go." Manitoulin means "island of spirits," but its seasonal inhabitants have managed to persuade the Mounties that it is not the original "Tight Little Island."

When we come to Chedoke, however, we find the Redmen did a complete "switcharoo" on the white settlers and, in many ways, did a better job. The pioneers took a string of Indian words and ran them into long, almost unpronounceable ones; the Indians did the reverse. Chedoke is Indian for the English Seven Oaks, and much easier to say. Ekoba, however, means "place of echoes" and is not short for Etobicoke.

A son-in-law of a Governor-General of Canada who became a Lieutenant-Governor of Upper Canada, Sir Peregrine Maitland, exerted much influence on our

place names. There is a village and a river bearing the name Maitland, but it was the Spanish language, which he loved, that provided most of the names he selected. He probably named more sites and bodies of water than any other early authority.

Mariposa is Spanish for butterfly (not to be confused with Eramosa which means "dead dog" in Indian). Other Spanish names are, Oso, meaning "bear"; Oro—"gold"; Mono—"monkey"; Rama—"tree branch", and Sombra, which is Spanish for "shade". Perhaps, in these days of educational TV, the most pertinent of all Sir Peregrine's nominations was Zorra, which, "sombras" of Errol Flynn, is Spanish for a vixen.

Animals play a large part in some of the English names too. We have Cat Lake, Lions Head, Zebra, Foxey, and Groundhog. Sir Peregrine is also credited with

naming Tiny, Tay, and Flos after his wife's three small dogs. In the western part of the province, an interesting non-animal place known as The Rapids became the important sounding Sarnia, which was the Roman name for the Island of Guernsey.

Some imaginative person suggested Kenora as an alternative for Rat Portage. This original designation was appropriate, however, because the muskrat furs were brought through there. The City of London was once known simply as The Forks, while Galt was called Shades Mills. Tranquility, Carlsbad Springs, and Carrying Place all appear to have practical origins, but the good folk of Bottle can thank their lucky stars their town is not on Manitoulin Island—they don't even have the saving grace of celestial mythology to fall back on.

Whadiyanoaboutthat? ■





## OTTER AND AFTER

Construction at Otter Rapids has passed the half-way mark — and it's on to Little Long

by Don Wright  
photos by E. A. Johnston

**C**OAL piles, chimneys and reactors are new symbols of power production in Ontario, but the great era of hydro-electric development is continuing with all the romance and grandeur of the past.

Much of the present activity is concentrated along the turbulent tributaries of the Moose River, which drains a vast area of Northeastern Ontario on its course to the cold waters of James Bay. Thanks to the economies anticipated from extra-high-voltage transmission, these streams are expected to yield a long-term harvest in the vicinity of 1,500,000 kilowatts. The Abitibi, Mattagami and Missinaibi will contribute handsomely to the total.

The hydro-electric program actually underway or authorized in this remote section of the province represents an expenditure of more than \$220,000,000. It will provide Ontario Hydro with some 528,000 kilowatts by 1966. Included are four generating stations, three river diversions, 450

*(Continued on page 20)*

ENGINEERING FORCES at the Otter Rapids project have diverted the Abitibi into a single channel during work on a gravity section between the sluiceway and headworks structures. Work is underway on the powerhouse excavation.

## CONSTRUCTION ROUND-UP

HERE's a report-at-a-glance on the situation at Otter Rapids:

**Wing Walls** — The east and west wing walls and dam are complete. This involved placing 216,000 cubic yards of material ranging from large rocks to fine clay.

**Sluiceways** — All ten sluiceways and four diversion ports are complete.

**Tailrace** — Rock excavation is complete except for removal of a rock plug. The over-all project involves the excavation of some 600,000 cubic yards of earth and rock, mostly in the tailrace and powerhouse areas.

**Headworks** — Unit 7 headworks is complete, and the headworks of units 1, 2, 3, 4, and 8 are well advanced. Provision is being made for headworks for eight units, although only four complete units are presently authorized.

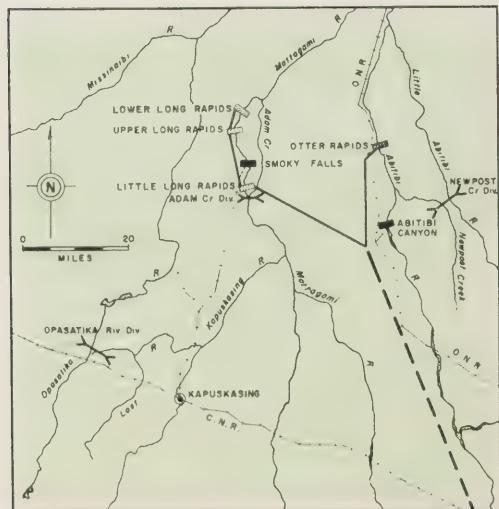
**Powerhouse** — The four draft tubes are complete, and concrete is being poured for the scroll case foundations.

miles of 460,000-volt transmission line, and a control centre from which each plant will be operated.

In terms of cost and capacity, the Otter Rapids development will be the greatest single component of the new power complex in Northeastern Ontario. Construction has now passed the half-way mark, and all schedules are being met in the drive to complete the first two units by late next year. When the remaining two units of this \$39,000,000 project are brought into service in 1963, the plant will have a capacity of 172,000 kilowatts.

It is planned to develop some of the new sites in two stages so that their maximum economic peaking capacity can be co-ordinated with the peaking requirements of the overall system. Provision is being made for four additional units at Otter Rapids so that it may become the largest hydro-electric plant in all of Northern Ontario.

Otter Rapids is listed at Mileage 93.5 on the timetables of the Ontario Northland Railway —



- SITES BEING DEVELOPED
- EXISTING GENERATING STATIONS
- RIVER DIVERSIONS
- EXTRA-HIGH-VOLTAGE TRANSMISSION LINE (460,000 VOLTS)
- CONVENTIONAL TRANSMISSION LINE (230,000 VOLTS)



**COMPLETING** one of the wing dams by placing and compacting carefully-graded granular material. The gantry crane is placing section of a gate for a sluiceway.

about halfway between Cochrane and Moosonee. The tracks actually separate the power site from the construction camp, and they are the sole means of access. A very adequate air strip has been bulldozed across a flat, sandy area just outside the camp, but this is intended for emergency use only.

Located on the Abitibi River just 20 miles downstream from the towering Abitibi Canyon Generating Station, the Otter Rapids site is somewhat less precipitous, but the banks are high enough so that very little clearing has been necessary in the headpond area. The concrete dam structure necessary to harness the river at this point is 2,200 feet long, including sluiceways and wing dams at both ends. It has a maximum height of 166 feet from tailrace to headworks.

Construction forces moved into Otter in the spring of 1958, and all those facilities essential for life in the wilderness were completed before the first snowfall. A six-mile network of access roads was quickly punched out, aggregate

production and concrete mixing plants were set up, and excavation was commenced in preparation for an early start on construction with the coming of spring.

#### River Diversion

River diversion was facilitated by the presence of a small island at the site, and by September, 1959, the west channel had been dewatered. Work could then proceed in the diversion port area, in the dry. The second cofferdam stage has since been completed, and the river is now confined to the west channel so that concreting can commence in the east bulkhead section and adjoining headworks.

During the coming fall and winter, work will concentrate on the powerhouse superstructure, headworks, and on the penstocks and scroll cases of Units One to Four. Most of the east bulkhead section, which requires some 40,000 cubic yards of concrete, will be poured by the end of this year. Total concrete requirements for the project are estimated at 240,000 cubic yards.

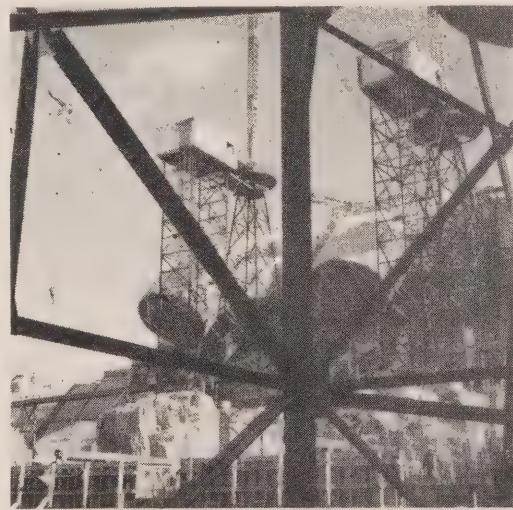
Concrete has not been a problem, as adequate sand deposits are present in the immediate vicinity, and rock excavation is more than sufficient to provide the necessary aggregates. Rock foundations have also been favorable, but it is interesting to note that Otter Rapids is situated almost exactly at the point where the hard rock of the Pre-cambrian Shield gives way to limestone, shale, clay and other sedimentary deposits. This will present a challenge in locating sound foundations and suitable concrete materials for future projects farther to the north.

Over the years, Ontario Hydro has developed a fast and efficient construction procedure of its own — yet each project deviates from the norm in some respect. Six giant guy derricks towering over the Otter Rapids development constitutes one innovation. These "stiff legs" are used for a hundred and one lifting jobs that are usually performed by mobile cranes. They have a lifting capacity of 10 to 20 tons with their

*(Continued on page 34)*



BUCKET METHOD of placing concrete is being used at Otter Rapids. The 100-foot boom of a guy derrick will swing the 3-*yd.* "lay down" bucket into pouring position.



TOWERING ABOVE the transition forms in the headworks section, these guy derricks have replaced the mobile cranes normally used on Commission projects. The derricks can be relocated as work progresses.

# PUBLICITY

## A TECHNIQUE FOR GREATER

THE utility manager had finished his game and was alone, sipping a cooling drink in the club room at his golf course. It was pleasant, he thought, to sit quietly in so relaxed an atmosphere.

The conversation was mostly about golf, but he couldn't help overhearing the exchange at one nearby table.

"... well, you know how utilities are. You're not treated like a customer but more like a statistic."

"I never did get an answer to my question. I guess they don't tell you any more than they have to."

"They seem like nice people in that office, but why does it take so many just to send out customers' bills?"

The utility manager confessed afterwards that it had been a bit of a shock to him. He had overheard three prominent businessmen discussing his utility—not critically, perhaps, but certainly with a lack of understanding.

What, it occurred to him, must the average customer think about us?

What the public does think of a company is called its corporate image. It is the mental attitude which the customer has built in his mind, and it is structured by what he has read about the company, what he has personally experienced with it and what acquaintances have told him.

The utility manager discovered that members of an informed group in his town held a somewhat unhappy opinion of his utility. Summing up their reactions, he

concluded they felt that the utility was:

1. Too impersonal in its dealings with customers;
2. Unnecessarily secretive about its activities; and
3. Over-staffed.

Number 1 he had suspected himself for some time. But it was a situation which could be corrected. A good staff training program might help overcome it.

What worried the utility manager were Items 2 and 3. He knew them to be untrue yet he wasn't sure how such opinions could be changed. The utility's corporate image was not all it might be to its customers, and he felt it was a situation which should be corrected.

Changing the sometimes deep-rooted attitudes which the public may hold about a company is not an easy task. It requires public relations skill, experience and patience, and it may take years or even decades.

A good public relations program is many things. But above all its aim is to create mutual understanding between groups—between corporation and stockholders, corporation and employees, corporation and customers. In such an atmosphere, business relationships will thrive, and all will benefit.

Good two-way communication is a basic need in such a program. And to achieve this, the program uses all the basic communications media to keep information flowing from management to employee, shareholder and customer groups

**Good Press Relations  
Is Good Customer Relations;  
First of Two Parts**

# UNDERSTANDING

and, in return, from these groups to management.

Company publications; employee letters; direct mail pieces to customers; public appearances by company executives; well-informed, mannerly employees; company support of community endeavors; articles and news items about the company in the press and on radio and television—all are valuable in this respect.

Of course, a program of such dimensions is often beyond the scope of relatively small organizations. Yet, there are some steps the utility manager might have undertaken.

One valuable public relations technique—and the one with which this article is concerned—is the publicity program. It is the business of establishing good relationships with local newspapers and radio and television stations as a means of publicising the company, its operations and its activities.

Let's take a utility as an example. The installation of an important new item of office equipment, the opening of a new transformer station or meter depot, the purchase of a new line truck—even such comparatively small occurrences as these can be vehicles for publicity and, consequently, the means of public information.

It has been said, and with justification, that favorable publicity appearing in local newspapers often has more impact than paid advertising.

This is not to suggest that it can or should serve as a substitute for

the utility's regular advertising program. But the steps which a utility management takes to expand, improve its service or streamline its organization are often newsworthy to the local weekly or daily newspaper, and, in his mind, such things may have stature as bona fide news items. He would like to be informed about such items so he can print them in his paper.

Granted then, that favorable publicity can be beneficial, how does the electrical utility achieve a sturdy, continuing press relations program?

Here are some basic ground rules:

Get to know the editor and his newspaper. Typically, he is a good citizen, interested in helping to build business and jobs in the community he serves. He is a well-informed individual, aware of his town's problems and needs, and with a healthy opinion of how to correct and fulfill them.

He is a busy man, but he welcomes visitors to his office, and is sympathetic to the honest individual who lays his cards on the table and says: "Some of the things our utility does may be of news value to you. I plan to keep you informed about our operation, and I hope you will use the information."

Ascertain what the paper's deadline is. (If daily, what time of day the paper goes to press; if weekly, what day of the week it goes to press.) You will be doing the editor and yourself a favor if you

make certain that your information reaches him sufficiently in advance of his deadline.

What items of information constitute newsworthiness in the eyes of the editor? There is probably no rigorous formula you can apply in determining this. In the last analysis, it will be the editor's decision as to what he will use and what he will not.

But over any period of association with your local editor, experience will eventually indicate what information will be used and what will likely go into his File 13 (newspaper vernacular for the wastebasket).

Even to the inexperienced, however, some events will be obviously newsworthy. The opening of a new service centre or an announcement about rate changes, both certainly rate the news columns.

Unfortunately, the utility man's knowledge of, and familiarity with his organization may close his eyes to what is newsworthy. The secret is to train oneself to look at the organization objectively; to try to see it through the eyes of a customer.

Here, for example, are some good bets to make the local paper:

- An employee of 30 years' service retires to grow orchids in his garden. (If published, it would reflect on the utility as being a good employer.)

- The utility sets up a new card-index system. (Your organization is always up to date; always look-

*(Continued on page 24)*

# PUBLICITY

(Continued from page 23)

ing for ways to streamline the operation and make it more efficient.)

• A line crew pitches in to help a stranded motorist just outside of town. (Utility people are good neighbors.)

• The Commission's regular meeting. (Commission decisions are of community-wide interest. The Editor will probably accept your invitation to attend and report on regular meetings—or at least those of special significance.)

• The utility caretaker wins a prize at the local garden show for his spring tulips. (Your contribution to the "Keep our town beautiful" campaign.)

Just for the record, here are some items of information less likely to be acceptable to the editor:

• Five utility employees purchase new summer cottages in the same month. (Who cares, and, in any event, it might suggest to less fortunate individuals that the utility pays its employees too well.)

• A member of the Commission visits Ottawa for personal reasons. (If he had attended an O.M.E.A. meeting there, it would have been news.)

• The utility replaces the wire fence around its vehicle enclosure. (This does not really reflect improved service or greater efficiency.)

## NO AXE TO GRIND

THE municipal electrical utility is in a unique position when it comes to publicising its activities.

A.M.E.U. President Harry Hyde, general manager of Toronto Hydro, told a group of O.M.E.A. delegates in Burlington recently: "We are businessmen, but we are not motivated by the need for profit. Our job is to deliver electricity at the lowest possible cost and, at the same time, provide the best possible service to customers. We also want to make electricity available to every member of the community.

"If we do these things and our books balance, then we have discharged our obligations."

What Mr. Hyde meant is that the municipal utility practices a high form of altruism in its relations with the community. Its job is one of public service.

Perhaps even more important is the product it sells. In every sense of the word, electricity is quality, reliability and value.

For these reasons alone, the newspaper editor and his readers will attach more validity to news of utility activity than they would likely do to that from the private business or company.

It is worth remembering that a news story in the local paper doesn't have to mention the utility several times to be satisfactory publicity. Casual mention of the good job a meter reader did in reporting a break-in can also be valuable.

Newspaper editors are busy people, so the information you send him should be clear and concise. It should be typewritten, double-spaced and with plenty of margin on both sides of the paper.

Received in this form, your news release will be readable, and the editor can edit it quickly and easily for type-setting. Remember too, to include the source of the release (utility name, address, the individual there to contact and his phone number). If the editor desires additional information, he will know immediately where to get it.

Hand-written news items, even though they contain good interesting material, won't be welcome on the editor's desk. They may be hard to decipher, difficult to edit and, in the long run, are a good bet for File 13.

*(Next month: Basic steps in the preparation of a news release.)*

# COOK-OUTS CAN BE FUN

by Lois Hurst of Ontario Hydro Homemakers' Service



It's strange, but food cooked out-of-doors always seems to taste better. It doesn't matter whether it is toasted over a little campfire or grilled on an elaborate barbecue, the fresh air certainly helps the appetite. Perhaps this underlies the fact that the garden or patio have become favorite spots for entertaining.

An expensive stone fireplace, tucked in a corner of your backyard, is not necessary for a cook-out party. There are dozens of portable charcoal barbecues, and many of these have electrically-turned rotisserie skewers for juicy roasts, savory sweet chicken and sizzling spareribs. Many people are buying electric charcoal lighters these days because they find them much cleaner and safer than using an inflammable liquid starter.

Weatherproof outlets are also handy, not only for plugging in barbecue motors and electric charcoal lighters, but also for electric lawn mowers, saws and Christmas lighting.

But, remember, don't set up portable barbecues near garages, sheds or wooden fences. A lining of heavy-duty aluminum foil under the charcoal reflects heat back on the food to speed up cooking. Also it's a big help in cleaning out the firebox.

Of course, if you do not like the mess of cleaning up ashes, you can use portable electrical appliances with outdoor extension cords. Incidentally, the rotisserie-broiler is cleaner and more controlled than charcoal, and you can use it indoors all the rest of the year.

A lot of extra clean-up work can also be eliminated by using dis-

posable paper products. Be sure you have plenty of extra large paper table napkins available for the convenience of your guests.

When planning your meal, pick easily prepared foods so that the chef will have time to mingle with the guests. Have plenty of food. Remember everyone eats more out-



(Courtesy of Dairy Foods Service Bureau)

of-doors. Count on 1½ to 2 servings for each person. Store the food, especially salads, in the refrigerator until just before serving. A clothes basket makes a handy carrier for the numerous small articles needed for your outdoor party.

The basic tools for barbecuing are a long-handled fork, tongs and spatula. Be certain that the handles are of wood or some other non-conductive material. Gloves with asbestos palms are handy for moving baked potatoes and warm utensils.

Set out the meal buffet style, and be sure there is an extra bowl of each food kept in reserve for the "seconds". When there are more than twenty guests, put out two plates of each food and serve from both sides of the table.

When the fire has burned down to a glowing bed of coals, it is ready for grilling. Rub the rack with a little fat, then lay on the steaks or the meat you have selected. Use the tongs for turning steaks. Forks puncture the meat and let succulent juices escape. Regulate the heat by adjusting the distance between the grill rack and the fire.

Backyard cookery is not limited to company entertaining. The whole family rallies for lunches and suppers out-of-doors. Steaks are not always on the bill of fare.

Here is a recipe for an inexpensive meal-in-one with a hearty flavor just right for summer appetites. It can be simmered in a skillet over the fire or in an automatic electric frypan:

## Barbecue Succotash Supper

1½ pound sausages  
2 medium onions, sliced  
1 small clove garlic, minced  
½ cup ripe olives  
2 cups canned red kidney beans  
2 cups canned kernel corn  
1 cup tomato juice  
½ teaspoon salt  
½ pound cheddar cheese, grated

Lightly brown sausages in skillet over fire or in electric frypan. Pour off all but 2 tablespoons of fat. Cut sausages into 1-inch pieces. Add onions and garlic and sauté with sausages until tender. Cut olives from pits in large pieces. Add to sausages. Add beans, corn, tomato juice and salt. Simmer, covered, 20 minutes. Sprinkle cheese on top and heat until cheese melts. Serves eight. This is delicious when poured over toasted hamburger buns.

by Don Wright

One of the world's foremost protection agencies wages a relentless battle

# In Defence Of Our Forests

**S**UMMER is the magic potion which touches off the annual North American exodus from town to country. Under its spell even the most sedentary city dweller feels an imaginary surge of pioneer blood in his veins, and he is off for a week or two in the woods.

Amateur woodsmen fare particularly well in Ontario, where the authorities have joined with nature to provide an outdoor environment second to none. Unfortunately, it is vulnerable to a variety of enemies, and extensive counter measures are required to keep them at bay.

Of all the foes of the forest, fire is the most terrifying. Under the right conditions, a bolt of lightning, a spark from a locomotive, or a cigarette butt tossed from a car will turn a leafy sanctuary into a holocaust of death and destruction. A tiny campfire can reduce thousands of fertile acres to a wasteland incapable of supporting life for many years.

Favored with the proper combination of dry weather, high winds and abundant fuel, a small ground fire will "crown," roaring

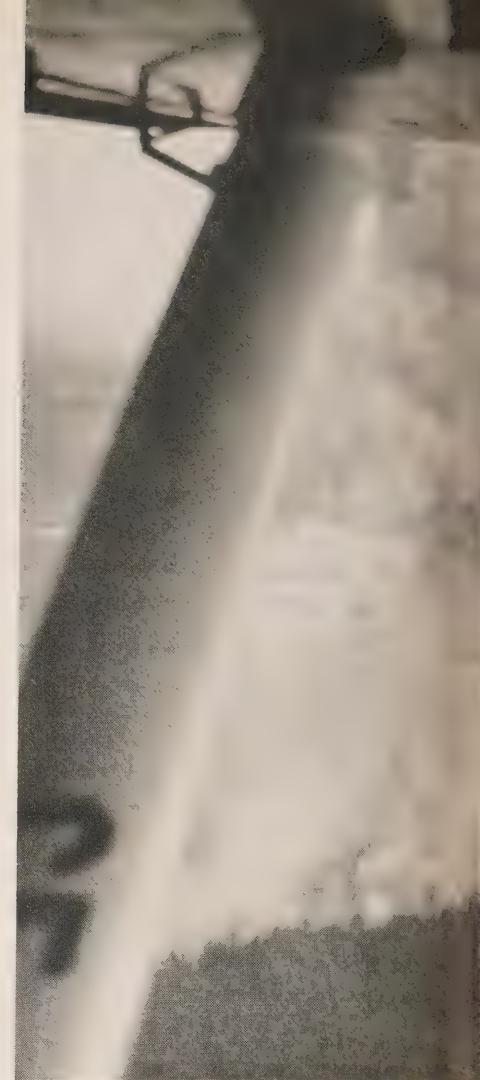
through the tree tops faster than a man can run. Such a fire will burn with unbelievable fury, generating combustible gases and hurling flaming brands more than a mile in advance of the main front.

It was a fire such as this which exploded in the Rainy River area in October, 1910, claiming 42 lives and destroying 300,000 acres of timberland. In July the following year, fire raged across 500,000 acres in the Porcupine district where gold had recently been discovered. At least 73 lives were lost.

## Disastrous Fire

The most disastrous of all Canadian forest fires erupted in the Matheson area of Northeastern Ontario in 1916, following a prolonged dry spell. This savage inferno ravished the settlements of Kelsa, Val Gagne, Porquis Junction and Iroquois Falls. The death toll was 224.

Flames blackened the equivalent of 18 entire townships in the Haileybury fire of 1922, leaving 6,000 persons homeless at the onset of winter. It happened again in 1938 when 17 persons died in



forest fires at Fort Frances. No human lives were lost in the Mississagi-Chapleau fire of 1948, but it exceeded all previous ones in extent. First reported on May 25, it burned until the end of August, and more than 600,000 acres of forest were laid waste. Happily, some 262,000,000 bd. ft. of lumber and more than 100,000 cords of pulpwood were reclaimed from the scorched logs in a unique salvage operation launched soon after the ashes had cooled.

These were the great conflagrations of the past, and they may be repeated at any time in the future. But it is the small, run-of-the-mill fires which, year after

(Continued on page 28)



IN THE PAST 50 years, Ontario has had eight forest fires a day during the fire season. Each fire on average has destroyed 220 acres, while the loss of life numbers in the hundreds.



A NETWORK OF steel lookout towers in the forested areas of the Province forms the basis of its impressive fire-detection organization.



FIGHTING forest fires can be both dangerous and back-breaking work. Here a group of firefighters is digging a fire-line during a serious outbreak in the Sudbury District.

year, cause the most damage to timber, game, soil, and recreational areas. Over the last 50 years, forest fires have occurred at the rate of eight per day in Ontario during the fire season from April 1 to October 31. Records indicate an average of 220 acres per fire, so that, each day of the fire season, 1,760 acres of forest are erased.

Less spectacular, but even more devastating, is the havoc wrought by insects and plant disease. For the whole of Canada the loss from these causes is estimated to be almost five times the loss caused by fire. Such insidious saboteurs as the spruce bud worm, the white pine weevil and the European pine sawfly are ceaselessly at work, and it is only necessary to observe the many stark skeletons of once handsome elm trees throughout Southern Ontario to appreciate the effects of Dutch elm disease.

#### Valuable Asset

This is the enemy—a triple scourge dedicated to the task of destruction. Its target covers more than half the land area of Ontario, which yields an annual harvest valued in the neighborhood of \$600,000,000, after processing. About 95,000 persons make their living in the forests and in the forest-based industries. Other benefits cannot be evaluated. In addition to the hunting, fishing and recreation which they provide, the forests prevent soil erosion, help regulate and maintain water flow, and even have a moderating effect on the weather.

In defense of our forests, one of the world's most advanced protection services has been established. The Forest Protection Branch of the Ontario Department of Lands and Forests has won international respect for the training methods, fire-fighting techniques and specialized equipment it has developed in an all-out effort to keep the province green. This task requires the full-time services



ONTARIO'S Department of Lands and Forests maintains a fleet of some 45 aircraft, which have proven invaluable in fighting fires. Here a 'plane unloads supplies in White River area.

of 600 highly trained personnel in fire control alone, and an additional 2,000 men are retained during the fire season. Forest protection is expected to cost more than \$8,000,000 this year.

Time is of the essence in fire control, and the well-oiled machinery of detection functions constantly—seeking those extra few minutes of warning which can mean the difference between routine and disaster. Trouble is even anticipated on a scientific basis. More than 200 fire weather stations are maintained throughout the province to measure the weather factors that influence burning conditions. Daily ratings on the fire danger are compiled for each district, and these determine the degree of preparedness necessary at any time. They also serve as the basis for restricting woods travel and the use of fire, such as campfires.

Lookout towers supplemented by aerial patrol are the chief methods of detection. Keen-eyed observers stand lonely sentinel over thousands of square miles of forests and report by radio from their eyries high above the surrounding terrain. Some 300 of

these steel towers, 80 feet or 100 feet high, are manned during hazardous periods.

#### Aerial Coverage

Aerial coverage is provided by the Department's 45 aircraft, operating from 27 bases. Patrols are carefully plotted and the aircraft deployed where the danger is greatest. They carry a small but well-equipped crew of firefighters ready to swing into action at the first sign of smoke.

Once a fire is spotted, subsequent operations depend heavily on communications. In Ontario, each district and ranger headquarters is linked by a province-wide network of high-frequency ground stations. A separate, V.H.F. system is used within each administrative district for communication with ranger stations, fire towers, aircraft, vehicles, and crews on the actual fire line. With more than 1,100 radio-telephone units in service, the Department is said to operate the largest communications network of its kind in the world.

Reaching the fire scene often

*(Continued on page 35)*

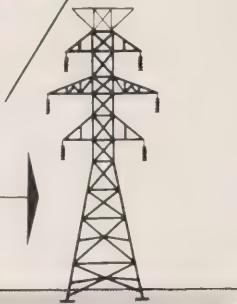


WATER-DROPPING from float-equipped aircraft, one of the newer techniques of fire fighting in Ontario, has greatly increased the effectiveness of aerial control of forest fires.



THIS SCENE of devastation in Nipigon Township is typical of many areas where forest fires have halted lumbering operations.

## ALONG HYDRO LINES



### New underwater cable serves St. Lawrence Island

One of the longest underwater electric cables ever installed in Eastern Ontario was completed during June by the line crew of Ontario Hydro's Brockville Area. Each 3,900 feet long, the lead-jacketed, steel-armored cables span the Canadian Middle Channel of the St. Lawrence River, west of the Ivy Lea Bridge, to provide additional electrical service to Hill Island. This island is the site of a shopping freeport, motels and service facilities for tourists. The cables, mounted on reels weighing more than 11,000 lbs. apiece, were laid by barge at depths ranging from 40 to 140 feet.

### W. C. McLaren, Perth P.U.C. manager, passes

Manager of Perth P.U.C. since 1957, Walter C. McLaren, 65, died on July 15 following a heart attack. Born at Carleton Place, where he received his primary and secondary education, the deceased attended technical school in Toronto. After a brief career as a



### RESCUE ON THE OTTAWA

ACCUSTOMED to prominent roles in mercy flights, rescues, traffic emergencies and even the capture of criminal gangs, one of Hydro's helicopters recently played a thrilling part in helping to save two boats and their nine occupants from the swirling waters of Deschenes Rapids in the Ottawa River. Here the Commission aircraft, which was piloted by Bob Gillies, accompanied by Gerald Hankinson, observer, hovers over one of the stranded boats, which was driven into the rapids during a sudden storm. The Hydro 'copter dropped an anchor, walkie-talkie equipment, cigarettes and clothing to the crews, who waited through a gruelling night before being rescued by an R.C.A.F. machine.

farmer, Mr. McLaren moved to Perth, where he was associated with the Code Felt and Knitting Company for 34 years, latterly as superintendent of the company's felt division. He resigned to accept the management of Perth P.U.C.

Vice-president of Perth Planning Board, Mr. McLaren was also a member of the Perth 100 and

Perth Rotary Clubs. Active in municipal life, he served on the local municipal council from 1935 to 1942, when he was elected to the mayoralty, continuing as the community's chief magistrate until 1946, when pressure of business forced him to relinquish the post. He is survived by his wife and three sons.

## 47-YEAR CAREER

(Continued from page 14)

the largest of its kind in the world. It has been renamed the Sir Adam Beck - Niagara G.S. No. 1 after Hydro's first Chairman.

He directed the design of all the Ottawa River developments, one of which was named in his honor, and was deeply involved in all the other hydraulic projects until Whitedog Falls G.S. By then he was too busy on the second Sir Adam Beck station and the St. Lawrence Development.

Dr. Holden was Hydro's Chief Hydraulic Engineer for 10 years until 1947, when he was appointed Assistant General Manager—Engineering. He administered the planning, engineering, construction, research and supply divisions until promoted to Chief Engineer early in 1955.

His toughest job?

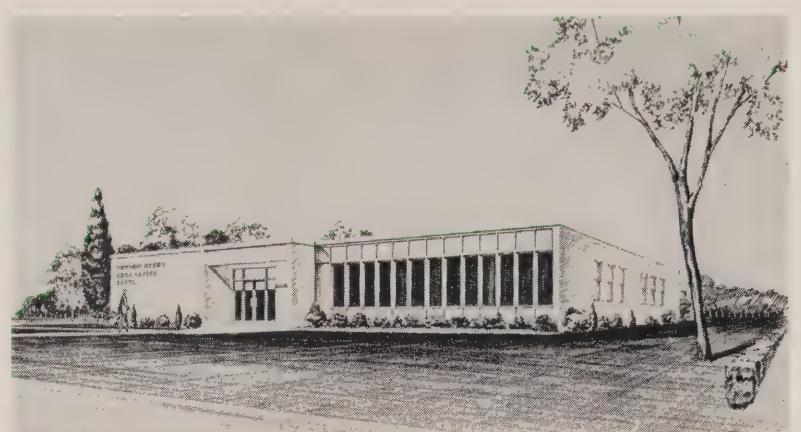
"They all looked tough at the time. The difficulty of the job doesn't depend on size alone, but all in all I suppose the St. Lawrence was the most interesting. It required so much co-ordination and close scheduling, so many pieces that had to interlock."

In addition to his heavy Hydro responsibilities, Dr. Holden has served on the International Committee charged with the design and construction of the Remedial Works in the Niagara river.

He has been overseas seven times in 10 years — delivering papers to international conferences, studying European and Russian systems, and acting as consultant on Australia's mammoth Snowy Mountains hydroelectric project.

"Ontario Hydro is known everywhere," he said proudly. "Even the Russians know all about the Niagara developments."

Among his many honors have been the honorary degree of Doctor of Engineering from his alma mater and the title "Electrical Man of the Year," bestowed



### UNDER ONE ROOF

A new area office and service building for Ontario Hydro is presently under construction on Irwin Street in Essex, and will be opened on September 27, 1960. Of pleasing architecture, the new building is designed and equipped along utilitarian lines to serve as headquarters for Hydro's operations in Essex County. The new and larger premises will permit amalgamation of the former rural areas of Harrow, Windsor, Essex and Kingsville, including Pelee Island.

in 1959 by editors and readers of two trade publications, *Electrical News & Engineering* and *Electrical Contracting & Maintenance*.

"Now," he said recently, "I'm going to take it easy for a while.

"I saw Count de Lesseps make one of the first heavier-than-air flights in Canada 50 years ago, and now I fly in huge jetliners.

"We used to talk about Ontario's abundant hydraulic resources, and I've seen them almost fully developed.

"Knowing what has transpired in my lifetime, I wouldn't dare say anything about the future that science will bring us.

"I have taken a great deal of satisfaction in the excellent performance of those who worked under me. Whatever comes up, they'll do a good job. Hydro has always had the right men to handle its problems, and it probably always will."

But Ontario Hydro won't find another Otto Holden. His reputation isn't limited to engineering circles, nor his popularity to pro-

### Hensall commissioner dies suddenly

Active in community life for many years, R. Ernest Shaddick, Hensall Hydro-Electric commissioner, died on July 17 in South Huron Hospital, Exeter, following a heart attack. A former village reeve and councillor, Mr. Shaddick was an employee of the Hensall District Co-operative. He was also active in local Canadian Legion and I.O.O.F. affairs. During World War I he served with the 161st Battalion. He is survived by his wife, one daughter and son, as well as a brother and sister.

George Armstrong, of Hensall, has been appointed commissioner succeeding Mr. Shaddick.

fessional respect. As Chairman James S. Duncan said:

"As an engineer, he enjoys international recognition. As an individual, Dr. Holden occupies a unique position in the affections of his colleagues and fellow workers at Ontario Hydro."



HYDRO'S impressive Robert H. Saunders - St. Lawrence Generating Station and the marvels of engineering manifested in its design and construction have had to compete for visitors' attention with this eye-catching bevy of station guides this year. Pictured in the group are: Betty Shaver, Leona Courville, Margaret Peddie, Shirley Desmaraeu, Jeannine Biccum, Suzanne Savignac, Myrna Plumley and Faye MacDonald.

## GENERATING PLANTS ARE TOURIST ATTRACTIONS

ONCE again this summer Ontario Hydro's Robert H. Saunders - St. Lawrence Generating Station has been a favorite stopping place for Canadian and United States tourists as well as visitors from many other countries. Between January 1 and July 31 this year, the station's guiding staff has conducted a total of 1,880 tours for more than 62,000 people. During the same period last year, the number of visitors totalled 42,758.

Free tours of the giant new Hydro power plant begin daily at 8:45 a.m., Sundays included. During July and August tours continue until 7:30 each evening. The one-hour tour provides visitors with a panoramic view of the new Lake St. Lawrence, the 3,300-foot power dam stretching to the U.S. shore, and the new deep-water shipping route. The story of construction is told in a 27-minute sound-and-color film, and the powerhouse operation is described with the aid of an operating scale

model complete in every detail.

The same story comes from Hydro's Sir Adam Beck - Niagara Generating Station No. 2, where the guiding staff has played host to almost 49,000 people since the beginning of the year. One-hour tours, from 9 a.m. to 4 p.m. daily, start at the station's information centre. Visitors are shown a 27-minute film and taken on an inspection trip through the station.

Far up the Ottawa Valley, Hydro's Des Joachims G.S. is open to visitors from 1:30 to 4:30 p.m. daily until Labor Day.

### Northwestern communities launch Hydro service

Two Northwestern Ontario communities entered a new era in their development recently by inaugurating Hydro service. A new substation was brought into operation at Sapawe, east of Atikokan, to serve homes in the village and the important lumbering oper-

### York Township manager retires December 31

First employee of York Township Hydro System, H. R. McClymont, the utility's general manager for the past 21 years, will retire on December 31 this year.

Mr. McClymont, who is credited with building the township's infant electrical system into an efficient organization, was born in Scotland, graduating from the University of Glasgow with degrees in electrical and mechanical engineering. He came to Canada in 1911, and acted as a consulting engineer for several years before taking charge of the electrical sys-



H. R. McCLYMONT

tem of York Township. In 1930-1931 he served on the council of the Association of Professional Engineers, and has been identified with the activities of the A.M.E.U.

Succeeding him as General Manager will be D. A. McGillivray, who has been associated with York Township for the past 20 years.

ations of Jim Mathieu Lumber Ltd., which depended on a diesel-powered generator for their electrical supply prior to the change.

Electricity flowed into Heron Bay Indian Reserve near Marathon, Ont., for the first time a few weeks ago. The first buildings to receive Hydro service were the parish hall of the local church and the home of Chief Michano.

## COMPLETES 50-YEAR ENGINEERING CAREER

A HALF-CENTURY of service in the electrical utility field was recalled by R. H. Starr on June 30 this year, when he retired as Manager and Secretary of Toronto Township Hydro-Electric Commission.

As a tribute to the quiet-spoken engineer, who guided the Toronto Township utility through 12 years of notable expansion, employees of the commission presented Mr. Starr with a gold watch. He was also guest of honor at a dinner party attended by a large group of township officials, representatives of neighboring municipalities and Hydro colleagues.

Born in Brandon, Man., in 1884, "Ron" Starr, as he is known to a wide group of friends, moved with his parents to Brampton, and, later, to Kingston, Ont., where he completed his primary and secondary education. Moving to Toronto in 1902, he held positions with the Bell Telephone Company and the Toronto Railway Company.

In 1905, Mr. Starr entered the University of Toronto, from which he graduated in 1909 with an engineering degree. From 1912 to 1916 he was a member of the staff of the Toronto Hydro-Electric System, until he accepted a sales position with the Moloney Electric Company.

Returning to the utility field in 1919, he became Manager of the Orillia Water, Light and Power Commission. In this capacity he had charge of the utility's electric and water departments, besides directing installation and maintenance of the town's sewerage system.

He remained with the Orillia Commission until 1931, when he joined the staff of the Municipal Department of Ontario Hydro and carried out important work in Northeastern Ontario relating to the Commission's acquisition of



R. H. STARR

the assets of the Northern Ontario Power Company.

In 1917, when Ontario Hydro established its regional organization, Mr. Starr became Consumer Service Engineer in the Northeastern Region, and moved to North Bay.

Two years later he relinquished this position to assume the managership of the Toronto Township Hydro-Electric Commission at a critical period in that utility's history. Since that time he has given valuable engineering leadership as the Toronto Township system rapidly changed from a small, mainly rural commission, serving some 5,200 customers, to a predominantly urban utility with a present customer total in excess of 16,000. During these years the Toronto Township Commission has pioneered in the use of concrete distribution line poles; the erection of sodium (amber) lights to mark intersections; installation of underground distribution facilities, besides active promotion in the new field of electric heating.

While giving close attention to the responsibilities of the various positions he has held during his 50-year career, Mr. Starr has also devoted much of his leisure time to the work of other organizations, including the presidency of the Orillia Canadian Club; the Orillia Kiwanis Club; the Orillia Hockey Association; the Canadian Section of the American Waterworks

## APPOINTED DIRECTOR OF ACCOUNTING

**W. DENNIS GILLMAN** has been appointed Director of Accounting for Ontario Hydro. He succeeds K. C. Coleman, who relinquished the onerous responsibilities involved for reasons of health, to assume the position of Regional Accountant, Central Region.

Born in London, England, Mr. Gillman received his education in London and Toronto. He was employed as a management consultant and as chief accountant with United Kingdom firms in Great Britain and Canada. During



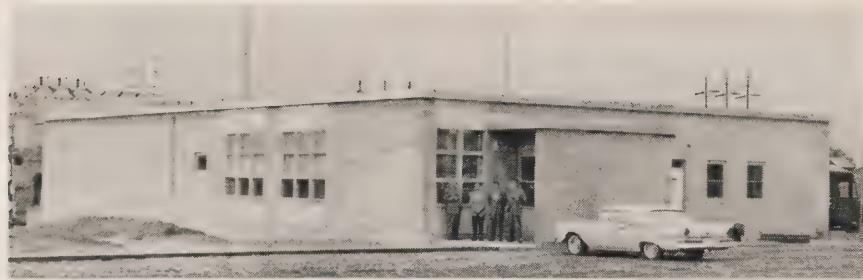
W. DENNIS GILLMAN

World War II he served with the British Army in France and India.

A member of the Canadian Institute of Chartered Accountants, he joined the Ontario Hydro staff in 1957 as Manager of the Budget and Statistics Department, a position he still retains as Director of Accounting. ■

Association and the A.M.E.U.

He also has had the satisfaction of seeing two of his sons, William Beverley, Port Credit, and Fred, Leaside, enter the engineering profession. ■



## ONTARIO HYDRO INAUGURATES KENORA AREA OFFICE

ONTARIO Hydro recently opened its new Kenora Area office and service centre (above), located on the Rabbit Lake Road in Jaffray-Melick Township.

During a brief ceremony, attended by area customers, officials of Kenora, Keewatin and Jaffray-Melick, and major power customers, D. I. Nattress, manager of the Commission's Northwestern Region, formally opened the building. Wearing a safety hat and rubber gloves, Mr. Nattress (as shown on the right) used a pair of bolt cutters to sever an insulated cable stretched across the doorway in place of the traditional ribbon.

Speaking briefly were C. A. Bergman, mayor of Kenora and general contractor for the building; J. H. Drew, mayor of Keewatin, E. W. Byers, reeve of Jaffray-Melick Township, all of whom were unanimous in their tributes to Ontario Hydro and the contribution it had made to the development of that section of the Province.

The guests were then invited to go through the offices and maintenance shops, and to examine the electric heating system. The new office and service centre has a floor area of 6,600 square feet, and an installed capacity of 68 kilowatts in electric heaters. By using electric heating, it is possible to obtain close zone temperature control in this new building, which houses both the clerical and main-



tenance staffs. At the same time, space was obtained for one additional office by elimination of the conventional furnace room.

The Kenora Rural Operating Area has 2,230 customers, including a major direct industrial customer, the Ontario-Minnesota Pulp and Paper Company at Kenora. It also operates Ontario Hydro's new generating stations at Caribou and Whitedog Falls by remote control. ■

### Napanee P.U.C. employee revives Cobourg baby

Visiting in Cobourg recently, W. B. Pettit, a member of the Napanee P.U.C. staff for more than 17 years, demonstrated the value of the utility's artificial respiration training program when he revived a two-year-old girl, Shelly Shortt. Mr. Pettit responded to a call for assistance from the grandmother of the child, who had suddenly become unconscious as the result of an undetermined cause. Mr. Pettit succeeded in restoring the baby's breathing after several minutes of resuscitation.

## OTTER AND AFTER

(Continued from page 21)

100-foot-long booms in their lowered position, and are 180 feet high.

Only one of the four cofferdams built at Otter Rapids was of the conventional timber-crib construction. Considerable time and money were saved by eliminating timber, and the resulting structures proved to be even more watertight. Steel grills were used to retain the rock fill at the start of placing. These were dropped into position immediately downstream from the breach by a system of cables and winches.

Other features of construction at Otter Rapids include the extensive pre-engineering of formwork and the use of low-lift (7-foot) pours in the gravity sections. Readily-accessible cantilever forms make it possible to employ the bucket method of placing concrete.

Improved methods are not confined to engineering and construction, for higher living standards and better recreational facilities are introduced at almost every project. Experienced field personnel rate the Otter Rapids camp at the top. Presently at its peak, it accommodates more than 1,000 persons in single quarters and in the family colonies.

### Attractive Colony

The camp is attractively laid out on a clean, flat, sandy site, well removed from the noise and traffic of construction. Fresh paint, neat flower gardens, white picket fences and even the occasional lawn reflect the morale of the colonists. Instruction is provided up to Grade 10 in a four-room schoolhouse, and the camp boasts a well-equipped hospital, cafeteria, snack bar, store, bank, post office, and most of the amenities of suburban living.

During the cold northern winters, social life centres around a two-sheet curling rink—a first for Otter Rapids and an outstanding success. Other recreational facil-

ties include a billiard hall, bowling alleys, auditorium, skeet range and badminton courts. Except for a small grant from Ontario Hydro, all these activities are self-supporting, having been organized by the employees.

Chemistry has, undoubtedly, made the greatest single contribution to normal community living in the summertime. Thanks to the well-planned and copious use of insecticides, the camp has become a tiny oasis in a vast desert of black flies and mosquitos. The minute but ferocious black fly is controlled by the spring-time aerial application of larvicides to the surrounding rivers and streams. Such insects as survive this initial onslaught, succumb to the twice daily rounds of an aerosol generator hauled through the streets of the colony by tractor. This machine emits a fog of DDT suspended in fuel oil, which settles in a very fine film on grass, foliage and underbrush.

Present schedules call for the completion of Units 3 and 4 in the Fall of 1963. Not until then will the site be restored to the pestiferous hordes and the lawns and flowers give way to the encroaching bush. But construction forces have already established a new beachhead only 27 air miles to the southwest. At Little Long Rapids, on the Mattagami, another self-sufficient community will arise before winter. Close neighbors, as the crow flies, there will be little commuting, for no roads link the projects, and more than 200 miles of rail separate one from the other. ■

#### **Employees honor retiring manager**

Fellow workers of M. A. Taylor, who resigned as Manager of Prescott P.U.C. recently, honored Mr. Taylor with the presentation of a travelling case during a social gathering in the utility offices. Mr. Taylor has been manager at Prescott for the past seven years.

#### **IN DEFENCE OF OUR FORESTS**

*(Continued from page 28)*

taxes the ingenuity and stamina of the firefighters even before the battle can be joined. Sometimes the outbreak can be reached directly by truck, but, more often, a combination of transport such as aircraft, boat and canoe is required. The goal may well involve a hike of several miles through dense underbrush with a heavy burden of equipment. Aside from its aircraft, the Department of Lands and Forests maintains a fleet of 900 vehicles, over 1,000 boats and canoes, 800 outboard motors, and several railway motor cars. Five helicopters are retained under lease.

Work on the fireline is hard, unrelenting, and sometimes dangerous. Water drawn from nearby lakes or streams by hose and power pumps is the chief control measure, while hand pumps, shovels, axes and axe-hoe "pulaskis" are the most important tools. The equipment inventory includes 1,300 portable power pumps and more than 750 miles of fire hose. Where conditions permit, bulldozers or heavy fire ploughs are used to cut fire breaks, but each fire has its own characteristics, and it is up to the fire boss to map out the overall strategy.

Four or five men can snuff out most fires, but others will defy hundreds of firefighters and a vast array of equipment for days and even weeks. In an emergency, the Department can invoke the Forest Fires Prevention Act to recruit any able-bodied man between 18 and 60 years of age, provided he is not engaged in other essential duties. Camping equipment, sufficient to supply several thousand firefighters, is kept on hand, including 2,500 tents and 30,000 blankets.

Aircraft are probably the most useful and versatile of all forest protection tools, and Ontario has pioneered in their use for this purpose. The Department's fire-fighting requirements influenced

the design and development of the world-famous Beaver and Otter aircraft, and these machines have been equipped to douse a fire with 90 to 180 gallons of water at a single run. They reload simply by taxiing across the surface of a lake.

#### **Initial Attack**

The use of "smoke chaser" crews in patrolling aircraft for initial attack on fires has been another effective development. Radar is used in some of the more northern areas to track and plot lightning storms so that aircraft can patrol in the storm's wake looking for fire outbreaks. Special radio transmitters which can be dropped at small fires to guide ground forces to the site are now being developed. Some success has been achieved in "cloud seeding" to induce rain, and it may eventually be possible to dissipate storms and prevent lightning.

Modern laboratories staffed by highly specialized personnel guard the forests against insects and disease. This phase of the protection program is carried out jointly by the federal and provincial governments in a unique partnership wherein the province supplies the working facilities and Ottawa provides the staff and equipment.

Science and research are playing an ever-increasing role in protecting the forests, but the attitude of the public will always be a major factor. People are turning more and more to the outdoors for recreation, and Ontario Department of Lands and Forests officials never stop emphasizing that each individual must accept responsibility for keeping the forest playground in good condition. The forests of Ontario are vast, but there is not a tree to spare. ■

#### **Heads Niagara Region A.M.E.U.**

Manager of Niagara Hydro-Electric Commission, John F. Walsh was recently elected as President of the Niagara Region A.M.E.U.

## FIRE IN THE SKY

(Continued from page 13)

footings and driven down 30 or 40 feet. Particularly in rocky terrain, which has a high resistance to lightning-produced currents, ground cable is attached to the tower footings and buried about one foot below the surface to prevent the lightning from bouncing off the rock back to the structure.

It is not economical to provide skywires on low voltage electrical distribution lines. Therefore, spark gaps or lightning arrestors are installed at strategic points. A lightning arrestor is essentially a spark gap with a device that chokes off the power current which would otherwise follow through the flame started by lightning voltages in the gap.

### Research Division Tests

These precautionary measures have been adopted over a period of years as Research Division studies and tests have continued to yield authentic relevant data.

Ontario Hydro's "lightning experts" have found, for instance, that the Windsor, London and Kenora regions have the highest isokeraunic level (30 thunderstorm-days a year) in Ontario.\* Based on monthly meteorological records of Canada's Department of Transport for the 12-year period, 1938-1949, the Electrical Research Department's isokeraunic investigations also yielded some other very interesting and pertinent facts. For example:

- Ontario has an average of 19.2 thunderstorm days a year, compared with 12.5 in Great Britain and 22.6 in Northeastern United States;

- July is the top month for thunderstorms, with an average of

five storm days during the 31-day period, while at least two thunderstorm days a month occur from May to October. In Great Britain, the number of thunderstorm days average 2.7 during July;

- A compilation of lightning outages from 1941-1949 for 650 miles of 230-kv and 1,350 miles of 115- and 132-kv Commission transmission lines shows an average of 1.85 (230-kv lines) and 4.02 (115- and 132-kv lines) outages per 100 miles of line a year. Ontario's outage rate is considerably higher than Great Britain's, but substantially lower than in the northeastern section of the United States, which has approximately the same isokeraunic level as Ontario. The variation in outage rates for each of the specified areas, in the opinion of Research to differences in isokeraunic level, thunderstorm severity, and tower Division engineers, is attributable footing resistances, as well as such transmission line factors as shielding angles, the number of suspension insulators, conductor spacing, and minimum conductor-to-tower clearance;

- Ground resistance has a vital influence on the number of line outages caused by lightning. Records indicate that, over a 20-year period, the annual lightning outages per 100 circuit miles of Ontario Hydro transmission line between Chats Falls Generating Station on the Ottawa River and Leaside Transformer Station near Toronto were 2.4 in the high resistance section (average ground resistance of 150 ohms). In the low resistance section of the same line (25 ohms average ground resistance with a similar shielding angle of 41°) lightning outages were only 1.0 a year for every 100 circuit miles. Records for a similar period of time also indicate a further reduction on a 230-kv line between Beauharnois, Que., and Leaside (average ground resistance, 15 ohms with a shielding angle of 29°), for which the annual rate

### Present service pins to utility employees

Gold, 25-year service emblems have been presented to six active and 10 retired employees of St. Thomas Public Utilities Commission. The active employees honored were: J. R. Skelding, service foreman; H. A. Mailing, line foreman; F. T. Ford, assistant general manager; B. L. Caskey, office manager and treasurer; A. G. Littlejohn, waterworks superintendent, and E. M. Cohoe, service and operation dept.

was 0.25 outages per 100 circuit miles.

One significant result of this survey was the decision to reduce all ground resistances, where possible, to less than 15 ohms. This, in turn, has had a beneficial effect on present-day outage rates on Ontario Hydro's transmission lines, which are substantially lower than those indicated by the 10-year average.

The quest for even better line protective methods and equipment is a never-ending, multi-faceted operation. Five men on the staff of Hydro's Electrical Research Department, including two engineers, Hans Linck and Leo Lishchyna, aided by an impressive array of testing equipment, are constantly searching for new techniques to overcome the effects of electrical surges or over-voltages. In recent months, this work has, to a large extent, been focused on the problems of protection for extra-high-voltage lines.

Lightning is just one aspect of their work—albeit an important one. And these electrical testing experts will tell you frankly that awe-inspiring beauty is about the only favorable attribute of lightning. Nevertheless they admit it's a phenomenon in the laboratory of nature which has done much in history to advance electrical science, and will, no doubt, yield more valuable knowledge in the years to come. ■

\* A summary of thunderstorm data based on observations for the 10-year period—1941 to 1950—prepared by the Meteorological Division of the Canadian Department of Transport indicates that Windsor and Kenora lead Canada in the number of thunderstorms a year. London, Ont., and Crescent Valley, B.C., share "honors" for third place.

# ONTARIO HYDRO NEWS

SEPTEMBER 1960

LIBRARY

0312 1960

UNIVERSITY OF TORONTO



# ONTARIO HYDRO NEWS

SEPTEMBER, 1960

VOL. 47, NO. 9

## THE COMMISSION

JAMES S. DUNCAN, C.M.G., LL.D.  
Chairman  
W. ROSS STRIKE, Q.C.  
First Vice-Chairman  
HON. ROBERT W. MACAULAY, Q.C., M.P.P.  
Second Vice-Chairman  
LT.-COL. A. A. KENNEDY, D.S.O., E.D.  
Commissioner  
D. P. CLIFF  
Commissioner

J. M. HAMBLEY, B.Sc.  
General Manager

ERNEST B. EASSON, B.Com.  
Secretary

## EDITORIAL BOARD

JAMES S. DUNCAN, C.M.G., LL.D.

DR. V. S. WILSON  
President, O.M.E.A.

HARRY HYDE, P.Eng.  
President, A.M.E.U.

J. M. HAMBLEY, B.Sc.

ERNEST B. EASSON, B.Com.

JAMES A. BLAY

BOYD L. GRAHAM

Editor - BOYD L. GRAHAM

SUBSCRIPTION: \$5.00 PER YEAR

Published by  
the Information Division of  
The Hydro-Electric Power Commission of Ontario  
620 University Avenue, Toronto.

Authorized as second class mail, Post Office  
Department, Ottawa

Material published in Ontario Hydro News may  
be reprinted without permission.  
Most photographs are obtainable on request.



Member of the Canadian  
Industrial Editors Association  
and the International Coun-  
cil of Industrial Editors.



## CONTENTS

	PAGE
Mother Earth in 3-D	2
Focusing on Hydro's Photogrammetry Section	
900 Million Communists	6
Observations on the Sino-Soviet Alliance	
Nothing But the Best	12
Toronto's new civic centre gets ready to make its bow	
300 Moons Bright	15
Arcade of Light is North America's brightest spot	
Accent on the Atom	16
C.N.E. visitors see power plant of the future	
Publicity (Part II)	18
The technique of writing a press release	
Along Hydro Lines	21
Capsule review of utility operations	
Off-the-Wires	24
Editor's Comments	
COVER PHOTOS	
TWO sturdy oaks provide a picturesque frame for our front cover photograph of Hydro's new Lakeview Gener- ating Station now taking shape near Lake Ontario west of Toronto. This picture points up the progress made in erection of the steel framework of the giant power plant, which is the world's largest thermal-electric station presently under construction. Credit for this unusual impression of the new plant goes to Hydro photographer Ted Johnston, who also recorded the view of North- western Ontario's scenic Nipigon Bay on the back cover.	

## Hydro Rewards Incentive

(Woodstock-Ingersoll Sentinel-Review, July 26, 1960)

THE Ontario Hydro Electric Power Commission has gained the reputation of being one of the most progressive organizations of its kind. . . .

Possibly one of the reasons for this is the fact that the management encourages its employees to submit suggestions aimed at increasing the efficiency of operation.

In a plan launched by Hydro as recently as June 1957, cash awards of from \$5 to \$1,000 are made for accepted suggestions that will mean tangible savings to the Commission, and awards of from \$5 to \$100 for those which will result in intangible benefits.

According to an article in a recent issue of *Ontario Hydro News*, 4,400 suggestions have been recorded in the three years the plan has been in operation. From these, 465 were deemed of sufficient merit to receive an award. One man, who got the full amount of \$1,000, was responsible for an idea on tool making that not only makes "hot line" repairs more safe and convenient, but saves the Commission \$25,000 annually. Five others have also received maximum awards for their suggestions.

The article states that, "by the end of 1959, \$23,454 had been paid out in awards to employees. Ontario Hydro itself had saved an estimated \$152,423 through the adoption of operating improvements

of one kind or another." What is more, Hydro apparently does more than grab up the good suggestions. They see to it that any that might result in future royalties through sale or adoption by other companies, will net a share to the one who originated it.

One can imagine that such a scheme has a wonderful psychological effect on the employees throughout the Commission, making them take a keener and more personal interest in their work.

We don't suppose that the British economist, Prof. C. Northcote Parkinson, had a prior knowledge of this plan when he appeared last week before the select committee of the Ontario Legislature on the organization of government. But we feel sure that basically he had the same end in view when he suggested to the committee that a tribunal be set up to encourage people within the government and the associated government services to come forth with ideas aimed at greater efficiency and economy in government operation.

Some might hesitate to institute such a plan because of certain repercussions bound to come from those who do not understand its possibilities. Yet, from the account of the Hydro plan in its magazine, the Commission has proved the point many times over. ■



WATER and electricity have been a "powerful" team for many decades. Proof of this assertion can be found in the graceful fountains and high-powered lighting units in the new Arcade of Light at Toronto's Canadian National Exhibition (see page 15), which combined effectively to create this dramatic picture.

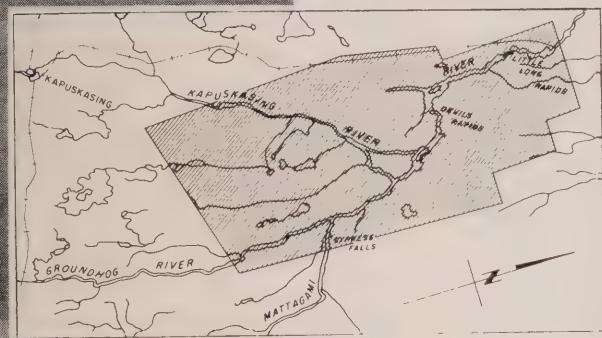
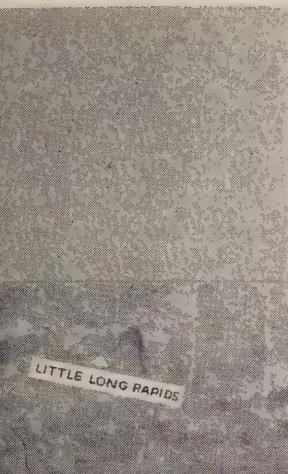


THIS MOSAIC of the Mattagami River area of Northeastern Ontario was prepared by Hydro's Photogrammetry Section from a series of aerial photographs. Boundaries of the mosaic are indicated by shaded portion of the map (right).

RESPONSIBLE for significant savings in time and money, the Kelsh stereoplotter uses pairs of overlapping vertical aerial photographs. Here George Fairfield, a Hydro photogrammetrist, is plotting contours and planimetry detail of a proposed site.

THIS Saltzman Reflecting Projector in Hydro's Photogrammetry Section is an optical instrument, functioning like a camera in reverse. It is being used here to verify details on a plan produced by the Kelsh plotter shown in the photograph on the left.





(Photo by Aero Service Corporation—Philadelphia)

MAPMAKERS have been charting the earth's face ever since Eratosthenes, a Greek mathematician, started to measure the circumference of this planet. His estimate of 25,000 miles was less than one per cent off.

## MOTHER EARTH IN 3-D

operations of Hydro's Photogrammetry Section  
Kelsh stereoplotter is a big help in the varied

WORKING silently in a darkened room in the basement of Ontario Hydro's Engineering Building, a man and a machine do the work of several survey parties.

The man is one of the Survey Department's photogrammetric technicians; the machine, known as a Kelsh stereoplotter, is an intricate \$10,000 descendant of the wood and glass stereoscope of grandmother's day, which showed 3-D views of Niagara Falls or the Flatiron Building in New York City.

The machine uses pairs of overlapping, vertical air photographs; its two projectors superimposing the respective images from each of the transparencies to

form a combined, visible model of the terrain on an adjustable table or platen. One image is projected through red light, the other, blue. Likewise, in order to view this model, the operator wears a pair of two-toned glasses of corresponding colors, similar to those issued when viewing the experimental 3-D movies of a few years ago. Because the blue lens eliminates the red light, and the red lens the blue, the operator receives a separate image with each eye; thus, the two overlapping, colored images merge to form a single, three-dimensional model, apparent in vivid relief as a bird's-eye-view from the air.

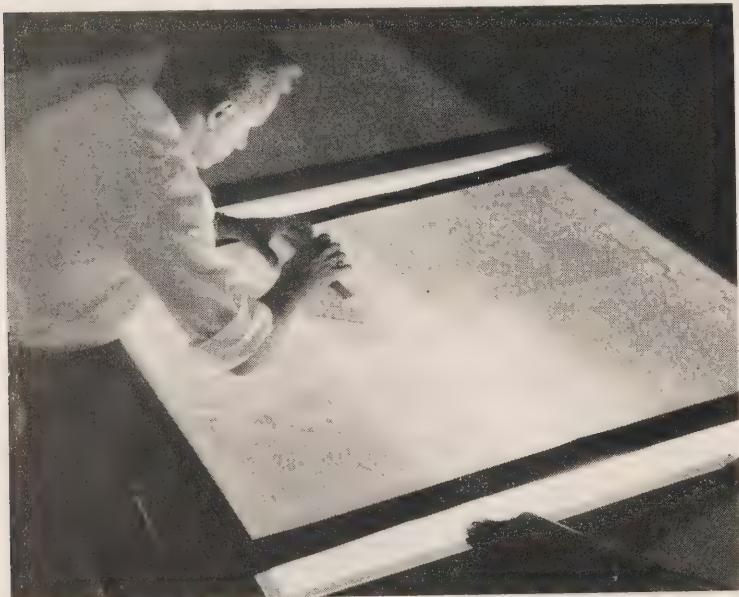
By controlling the orientation of the projectors, the operator is able

to adjust this stereo-model to fit a graphic plot of the original ground survey, which gives the precise location of two or more co-ordinates in horizontal scale, and the elevation of three or more sharply defined features in vertical scale. The adjustable platen is simply a small, movable tracing table containing, at its centre, a minute pinpoint of light, and, immediately below, a fine pencil point. By setting the table's height to a predetermined elevation, and maintaining the point of light at the apparent ground surface of the model, the pencil records, on a manuscript below, a faithful representation of the land form, by tracing contours

(Continued on page 4)



PHOTOGRAMMETRIST W. C. (Pete) Sidney is using a stereocomparator to develop contour patterns from air photos and transfer them to a site plan.



THIS LIGHT-TABLE is used in many phases of Hydro's photogrammetry work. Peter Kostin is shown carefully editing a negative of a Mattagami River mosaic.

PHOTOGRAMMETRISTS George Fairfield and Don Stewart check details of an edited aerial photograph showing forest cover. Such photos provide valuable information on terrain conditions in the vicinity of proposed Hydro facilities.



on the plan. Similarly, by adjusting the platen continuously and following roads, rivers, railroads, etc., their courses may also be plotted. The topographic drawing so produced, at a controlled accuracy of scale, serves a wide variety of uses. Among the more important functions are: reconnaissance, engineering design and other studies.

Many aerial survey assignments do not require such details as contours or elevations, a fortunate situation at present, for the Kelsh Plotter could not keep up with the demand and still maintain present production schedules. Its workload capacity has been almost entirely occupied by hydraulic engineering requirements, and the instrument has been working almost non-stop since its purchase in 1957. Hydro's Chief Photogrammetrist estimates that, in time saved and the value of the information derived, the Kelsh paid for itself in the first year of operation.

While the complete topographic plan, drawn to standard or controlled accuracy, is their most spectacular achievement, the photogrammetric group supplies other products of air survey, utilizing different procedures. When elevations and contours are not required, drawings showing other physical detail are produced by the Saltzman Reflecting Projector, an optical instrument functioning like a camera in reverse. Having a wide range of magnification, the Saltzman is versatile enough to make use of ground surveys to produce many of the plans required for engineering purposes.

#### Assist Field Crews

Another service undertaken by this group is the assistance given to field survey crews. With compass and protractor and skilled photo interpretation, the field photogrammetrist facilitates operations by blazing access locations and pinpointing survey stations. This reduces considerably the days

of arduous labor necessary in the initial stages of construction at northern power sites.

Mosaics of photographs carefully assembled to form a continuous picture are also of growing interest. Among other uses, they have helped in the preliminary selection of campsites, field operations, property studies, routes for transmission lines and access roads, and in engineering progress records. The addition of contours or form lines contribute greatly to the value of mosaics.

During the spring of this year, the photogrammetric section selected line-of-sight paths so that micro-wave towers could be located in Northern Ontario for control and communication purposes between the Abitibi Canyon Generating Station and the Otter Rapids plant now under construction.

Through the summer, aerial cameras have been assisting in the planning of Little Long Generating Station, the first of three new plants to be built on the Mattagami River (see *Ontario Hydro News*, April, 1960). The site for an extra-high voltage transformer station to gather their output has already been chosen from two plans which the Survey Department's photogrammetric staff produced to indicate ground conditions. The necessary mapping was completed in two days. The final plans cost less than \$70 each, and saved the Stations Department not only days of preliminary field studies, but actually provided more data than was required.

#### Estimate Coal Volumes

In a completely different field, but operating on the same principle, the photogrammetry section is currently working on a system to compute coal-pile volumes, for checking on coal shipments and consumption at thermal-electric power stations.

Photo interpretation involving soils, drainage, forestry and property studies, undertaken when re-

(Continued on page 22)



## IN THE FIELD

ONTARIO Hydro is saving both money and time through the use of helicopters in surveying and mapping sites in regions which are not readily accessible.

In the area of the Little Long project, in Northeastern Ontario, where the above picture was taken, Commission survey crews covered approximately 20 points in a day by helicopter. Without aircraft only four elevations could have been established. In the photo, Bill Henry, one of Hydro's senior photogrammetrists, is taking a reading on a surveying altimeter, which, when other factors are applied, can be used to calculate differences in elevation.

This instrument is employed with others to obtain survey data required for photogrammetric mapping. Note that the altimeter is sheltered by the helicopter so

that its readings will not be affected by the sun or wind.

While Bill was doing this job, another member of the Hydro survey crew was also reading an altimeter at a nearby sheltered base station. Before taking up their positions, the men had synchronized their watches preparatory to taking five readings over a ten-minute period, or one every two minutes on the even minute. At the same time, temperature readings were being recorded every five minutes.

In carrying out such operations, the base station is set up at a point of known elevation. After the altimeter and temperature readings have been recorded, the field rover proceeds to the previously selected control points. Meanwhile, the man, who remains at the base, makes continuous readings.

## The Sino - Soviet Alliance

by James S. Duncan, C.M.G., LL.D.,  
Chairman, Ontario Hydro

# 900 MILLION COMMUNISTS

*\*Leader of a Canadian delegation, composed of senior officials of several electrical utilities and other business organizations, Mr. Duncan visited Russia, during May this year. The text of this article, in which he presents his impressions of the tour and his personal views on the status of the relationships between the Communist and the free enterprise nations, is based on an address to members of the Canadian Electrical Association shortly after his return to Canada.—Editor's note.*



**I**F one is to appraise correctly the import and the challenge of Communism to the Western World to your way of life and to mine — and particularly to that of our children — one cannot dissociate the two great countries of Russia and China.

Communism today extends its tentacles over a vast territory, stretching all the way from the borders of West Germany to the China Sea, and embraces over 900 million people, without counting the satellite countries or the population of other smaller Asiatic nations which have embraced this faith.

Mr. Khrushchev summed up the situation in a recent article on

foreign affairs when he said: "Prior to the Second World War, the U.S.S.R. was the only socialist country with not more than three per cent of the population and ten per cent of the output of the world. At present, the socialist countries cover about one-fourth of the territory of the globe, have one-third of the population, and about one-third of the total world output."

Even after making allowance for the exaggeration and boastfulness which often characterizes that leader's public utterances, it behooves the people of the Western World to obtain as much information as possible regarding the forward march of a faith and a governmental system which differ so greatly from ours, and to understand the underlying forces from which they derive their strength.

There are undoubtedly profound ideological differences between the U.S.S.R. and China, based in part on the greater fervor of the Chinese and the fact that their revolution is but 10½ years old, whereas Russian Communism is watered down after 43 years of experience. It is important to understand, however, that for the present, and for many years to come, such cracks as may appear in the Sino-Soviet Alliance will be carefully plastered over. This is in their mutual interest, at least for the short term.

Chairman Mao Tse-tung would not hold the position which is his today on the world stage if it were not for this alliance, and Premier Khrushchev would speak with less confidence were it not for the knowledge that 670 million Chinese were ready to support his policies.

The object of our power delegation's visit to the U.S.S.R. was to acquaint ourselves with the progress which that country is making in the development of hydro-electric, thermal and nuclear facilities, and to investigate their important developments in connection with extra-high-voltage

long range transmission, both alternating and direct current.

### Rapid Progress

With a view to establishing the relative importance and the rapid progress made by the U.S.S.R. in their power developments, I would merely indicate that, whereas in 1928 their annual electrical production was but 5 billion kilowatt-hours, against 108 billion in the U.S.A. and 18 billion in Canada, their 1958 production had climbed to 235 billion kw-hrs. against 724 billion in the U.S.A. and 97 billion in Canada.

More important still, their annual production in 1965 is estimated at 520 billion kw-hrs. against 1,150 billion in the U.S.A. and 155 billion in Canada.

Comrade Novikov, the minister of Power Development, claims that this figure will be substantially exceeded. From what we have seen of their projects and learned of their future plans, this may well be the case.

Our delegation covered over 8,000 miles in the U.S.S.R., travelling as far east as Irkutsk, on the great Angara River flowing out of Lake Baikal, and but 2½ hours jet flight from Peking.

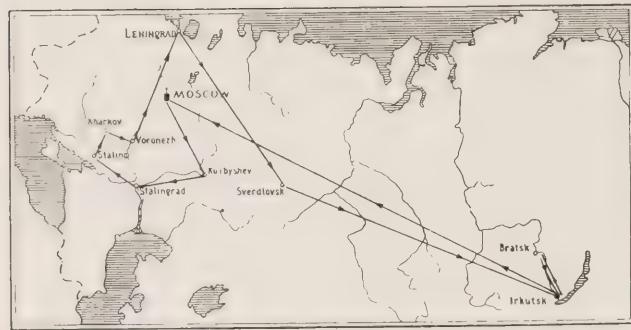
We visited great cities and power facilities in the Urals, such as Sverdlovsk, where the U-2 was brought down, and impressive industrial centers in European Russia and the Ukraine, such as Kuibyshev, Stalingrad (of world war fame and now completely rebuilt), Stalin, Kharkov, and, of course, Leningrad and Moscow.

Among the hydraulic plants visited was the one under construction at Bratsk in Eastern Siberia which, when completed in 1963, will be powered by twenty 250,000-kilowatt units, with a total generating capacity of 5 million kw, or over 2½ times the size of the St. Lawrence power development both on the U.S.A. and Canadian side.

The newly finished plant at  
(Continued on page 8)

MOSCOW'S annual May Day parade is a massive spectacle. Here, workers pass through Red Square, banners flying.

THE DELEGATION, pictured beside the Russian aircraft, before leaving London airport for Moscow. From left: H. P. Cadario, Ontario Hydro; F. L. Lawton, Aluminum Laboratories Ltd.; Mr. Duncan; A. E. Grauer, British Columbia Electric Co. Ltd.; H. A. Smith, Ontario Hydro; Mrs. A. E. Grauer; D. M. Stephens, Manitoba Hydro-Electric Board; H. Ellis, International Power and Engineering Consultants Ltd.; A. W. Howard, Calgary Power Ltd.; J. L. Gray, Atomic Energy of Canada Ltd.; R. E. Grout, Shawinigan Engineering Co. Ltd.



Canadian delegation travelled some 8,000 miles in the U.S.S.R.

Irkutsk in Eastern Siberia, with a capacity of 700,000 kw, and the Lenin plant at Kuibyshev, with a capacity of 2,300,000 kw, are, undoubtedly, first-class engineering jobs, and, except for detail and finish, they would compare with any in the U.S.A. or Canada.

The thermal plants we visited are much less spectacular, and they have none to compare with our Richard L. Hearn plant in Toronto, which will be producing 1,200,000 kw of power by next spring.

Their largest thermal plant presently in operation is at Lugansk, and has a capacity of 700,000 kw, but will be increased in due course.

On the other hand, the U.S.S.R. authorities are contemplating the building of large thermal-electric generating units — 300,000, 600,000, 800,000 kw — and they are even talking of 1 million and 1.2 million kw. They are proposing to build thermal plants of 2,200,000 kw in the future.

We visited two nuclear plants in the process of development, the

first power from which is expected in 1961 or 1962.

The U.S.S.R. resources in coal, natural gas, oil, and water power are so great, however, that she is not placing emphasis upon nuclear developments, and these will not play an important role in the growth of Soviet electric power production, at least during the present seven-year plan ending in 1965.

Although Soviet Russia has undeveloped water power resources of 340 million kw, 85 per cent of which are in Asian U.S.S.R., against 122 million in the U.S.A. and 65 million in Canada, she has only developed a small proportion of these.

#### Increased Percentage

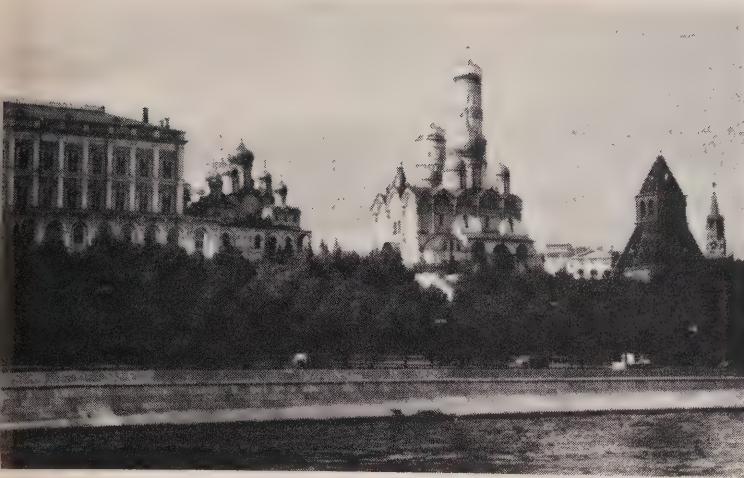
Soviet Russia has increased the percentage of hydraulically-produced electricity from 2 per cent in 1925 to over 20 per cent in 1959. The building of hydroelectric plants is being de-emphasized, however, in favor of thermal plants, which can be built

more rapidly, and, therefore, supply the power which they so badly need more quickly and at lesser capital cost.

Thus, by 1965, it is estimated, 85 per cent of Soviet electric power will be produced by thermal stations and 15 per cent by hydroelectric.

Although the Soviet annual production of electricity has increased immensely during the last 20 years, her installed capacity is still only approximately one-third of that of the U.S.A. The important factor, however, is that she is proposing to double her output during the next seven years, and will probably continue to do so in the foreseeable future.

Two factors stand out in this picture which are characteristic of the Soviet economy as a whole; namely, that her annual rate of progress is larger than that of the United States, and that, from the point of view of national strength, her electrical production is more effectively used, because it is largely channelled toward industry, and only a limited amount of the availability is allocated for household use. This is illustrated by the fact that, in 1959, the average annual consumption per home in the U.S.S.R. was 400 kw-hrs.



THESE CATHEDRALS with their Byzantine domes, are among the Kremlin buildings.



Modern in influence are these university buildings in Kharkov.

against 4,128 in Canada in 1958, and probably a slightly larger amount for the year 1959.

In the past five years, since I previously visited Russia, there have been unbelievable changes in the lives of the people. These have been years of great activity, of achievement, of progress, and of success. There has been more of everything to go around, and the government has progressively increased the allocation of consumer goods.

This remarkable improvement in the living standard of the Soviet people is the result of the dual factor of pressure from the masses, which are becoming more vocal, more independent, more aware of the better life in the Western World; and the deliberate policy of relaxation formulated by the government, which channels a larger proportion of the nation's Gross National Product to consumer goods in order to encourage the people; to demonstrate that their efforts are being rewarded; to stimulate their initiative, and to give substance to the government's boast that, in the not-too-distant future, not only per capita production but the living standard of the Soviet people will be the highest in the world.

They still have a long way to go, and the way of life in Russia today, even among the more fortunate classes — the senior engineer, the plant manager, the university professor — is grim enough and modest indeed in comparison with ours.

This is illustrated by the fact that, in 1958, 65 per cent of the U.S.A.'s Gross National Product was allocated to items of personal consumption, whereas only 30 per cent was so allocated in the U.S.S.R.

Whereas the government claims that 62 per cent more consumer goods will be allocated to the people by 1965, they are firmly committed to a policy of only diverting to these ends such materials and manpower which can be withdrawn from what they consider to be the basic requirements of the state.

The Soviet's attitude, for instance, towards motor cars, for which there is an insistent and growing popular demand, illustrates this point.

#### Communal Transportation

They have definitely stated that they do not intend to follow the example of North America in this respect, which they consider waste-

ful and self-indulgent. They will provide abundant transportation, but it will be communal transportation in the form of buses and trucks, frequently used for passengers, and other forms of public transportation.

This policy of deciding what is good for the people and disregarding their wishes is clearly illustrated by the fact that the Soviet's machine tool production equalled that of the United States in 1956, and that it will be doubled by 1965. On the other hand, current production of motor cars is only 120,000, and will only rise to 200,000 per annum by 1965, whereas the U.S.A. production of cars was 5,500,000 in 1959.

The challenging question is the degree to which the government will be able to continue to resist the legitimate and growing pressure of the masses for improved living conditions.

In my opinion, if the day ever dawns when the Russian people, as a whole, can enjoy the same degree of comfort and luxury which is the common lot of our North American people, the danger of world conflict will be immeasurably reduced.

There is no doubt in my mind  
(Continued on page 10)



THE RUSSIAN motorist has few traffic jams to contend with at present, but there is a growing demand for automobiles. Scene above is of the pillared Bolshoi Theatre in Moscow. Like other Soviet theatres, it is state controlled.

that the friendly Russian people, with over 25 million casualties during World War II, 20 million having lost their homes, and with the near destruction of a very large proportion of European Russia, have a genuine and deep-seated desire for peace. Unfortunately, the people are not the deciding factor, for the time being at least.

I have been asked on numerous occasions since my return, whether, notwithstanding the U-2 and the Summit crisis, I did not consider that the Soviet Union's more friendly approach, as voiced during Premier Khrushchev's visit to the

U.S.A., and his declared objective of peaceful co-existence, did not indicate a change of policy which we should recognize and co-operate with.

My answer to that is that on no occasion should we in the West fail to respond to any gesture of friendliness or fail to examine any proposal for co-operation.

On the other hand, although Khrushchev's Russia differs radically from Stalin's Russia, the basic and essential characteristics remain the same.

The West is understandably confused by Soviet statements of

intentions because our approach to public utterances, to the given word or to a signed agreement, is very different.

#### **Believe in Truth**

We believe in the sanctity of truth; to believe in a man's word is very basic in our thinking, but untruth is not unethical in Marxist philosophy.

In Lenin's own words, "the concept of truth is subordinated to the concept of proletarian victory, and does not count unless it serves this end."

And then again he states: "Loyalty to the Communist Party must be combined with our ability to scheme, to sign agreements, to zigzag, to retreat — anything to hasten the coming into power of Communism."

When one listens, therefore, to the words of a Soviet or Chinese leader, one must always bear in mind that they do not necessarily indicate the speaker's intentions, the ultimate objective may be very different.

Now, there is no doubt in my mind that neither the Russian people nor the Russian government, who believe that the irresistible wave of the future is carrying the world towards Communism, want war.

The Soviet government doesn't want war because peace serves their interest better. Russia, therefore, stands for peace — but peace on her own terms.

A prominent American put the situation very neatly the other day when he said: "This conflict need not result in war, but whether it does or not, depends primarily on whether Capitalism is graceful or stubborn about recognizing that it is outworn."

Soviet Russia requires a period of protracted peace — just as Red China does — to consolidate her position, to build her industries, to improve the living conditions of her people, and also to achieve that economic superiority over Capitalism which she firmly be-

lieves to be within her reach.

Peaceful co-existence is, therefore, just another part of the U.S.S.R.'s long-term program—as the Coca Cola advertisement puts it, "the pause that refreshes."

It is just another step in the U.S.S.R.'s forward march towards Communist domination, the policy so frequently referred to by Chairman Mao Tse-tung of, "one step backward and two steps forward."

It is difficult to reconcile Premier Khrushchev's friendly gesture, the call for co-existence and the perpetual talk of peace and understanding on the one hand with his abuse, his rabble-rousing speeches, full of false statements and calculated misrepresentation of the American alleged aggressive intentions, on the other—utterances which tend to endanger and undermine the very peace which is talked of so freely.

There is evidence, not among the Russian people, but among their leaders, that Soviet Russia is as committed as ever not only to the spreading of her brand of socialism throughout the world, but that she is more confident than ever in her ability to do so.

#### Balance of Power

This confidence is based upon the Soviet's belief, fostered by their great achievements, that the balance of power has now shifted in their favor.

Premier Khrushchev has stated on many occasions that peaceful co-existence is now the declared policy of Soviet Russia. However, he has gone on to state, quite frankly, that this does not mean a suspension of the underlying conflict between our societies. But what is this underlying conflict? It isn't Communism versus Capitalism. These are merely words to play on. To begin with, the system which exists in the Soviet today is not Communism at all but State Capitalism, and the thing

(Continued on page 20)

## ALL PROJECTS NOT "IN CAMERA"

CANADIAN electrical utility and engineering executives, headed by Ontario Hydro Chairman James S. Duncan, during the recent 8,000-mile tour of Soviet Russia, found that they were permitted considerable latitude in the matter of photographing important projects.

Like his associates on the tour, Harold A. Smith, Hydro's Assistant General Manager-Engineering, did considerable "snapping", and has a collection of color slides to prove it. Mr. Smith, who is also Manager of the Nuclear Power Plant Division of Atomic Energy of Canada Limited, regards himself as only "an average amateur" in the field of photography. He emphasized this point when giving permission for black and white prints to be made from some of his transparencies for reproduction in *Ontario Hydro News* to point up a few highlights of the tour, which included the inspection of a number of important Russian projects. ■



THE CHEREPETZK thermal-electric station is located near soft coal deposits, 100 miles south of Moscow. It has a capacity of 600,000 kilowatts, may be enlarged.



A VIEW of the major Russian hydro-electric development under construction on the Angara River near Bratsk. On completion, in 1963, it will have a capacity of 5,000,000 kilowatts, or more than 2 1/2 times that of the St. Lawrence project.

A \$12,000,000 gift:

# Nothing but the best

**N**ATHAN PHILLIPS is a professional booster of the best for Toronto the Good, but he sounded almost bashful when he popped the question in his first speech as mayor:

Wouldn't it be nice, he mused, if some millionaire or business organization built us the best civic auditorium in Canada?

Within a month, to everyone's amazement, a local firm offered to do just that.

It has taken five years and \$12,000,000, but the O'Keefe Civic Centre, a glittering showplace that ranks with the world's most elaborate, has surpassed even the mayor's ambitious dreams.

It has also taken careful, patient footwork to clear some Toronto hurdles: complaints that it was

named to honor one of the city's breweries . . . civic arguments over leasing an obscure lane for \$1 in exchange for a free, non-profit theatre . . . objections to non-union artistry in its enormous mural.

But now all is pride and excited anticipation.

The Centre opens with a splash October 1 with the world première of *Camelot*, a new musical by the *My Fair Lady* team of Lerner and Loewe, starring Julie Andrews, Richard Burton and Canada's Bob Goulet.

After a scheduled three-week run, *Camelot* moves to Broadway and makes way for *My Fair Lady*.

Other hits definitely scheduled: the play, *Raisin in the Sun*, the

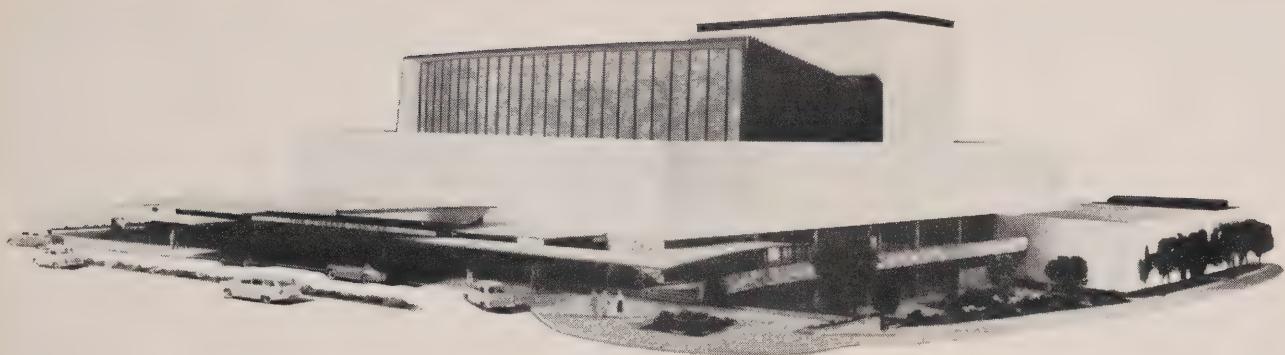
musical, *Fiorella*, the revue *At the Drop of a Hat*, and a musical show featuring balladeer Harry Belafonte. The Centre also hopes to present London's Royal Ballet and the British pantomime, *Treasure Island*.

Officials are concentrating on booking big productions, because that's what the Centre is primarily designed for — musicals, ballets, operas, symphony concerts.

But ingenious, built-in provisions will scale down the vast auditorium for plays or more intimate revues that would otherwise be swallowed up.

For example: The theatre can seat 3,200 people — 2,000 in orchestra stalls and 1,000 in the balcony. But no seat is more than 124 feet





THIS architect's model of the new Centre reveals the theatre's imposing facade.

by J. G. Foster

from the stage, and the capacity can be reduced to 1,200 by screening off the balcony and orchestra seats directly beneath it.

The problem of acoustics was tougher to solve.

The Centre may be a millionaire's brainchild, but its 2½-acre site lies mighty close to the wrong side of the tracks, and sound consultants had to drown out the clamor of Toronto's waterfront railway yards.

#### Double Construction

Exterior walls and the auditorium roof are of double construction, with a "dead space" between the surfaces. Behind the auditorium's side walls, special

(Continued on page 14)



THIS is one of four lounges in which theatre patrons may gather during intermission. This view looks north.



MAIN lounge of the new centre is dominated by this 100' mural depicting the seven lively arts.

wooden panels can be shuffled around by remote control to bounce, absorb or diffuse sound in varying degrees.

Officials are confident the Centre can thus show off anything from a soloist to a 50-piece orchestra, with the help of:

- A stage-sized acoustic shell that can be lowered behind performers to project the music outward.
- Acoustically-designed angles and curves throughout the auditorium to reflect sound in the best pattern.
- An adjustable orchestra pit that can be positioned at the right level for each type of production.
- A top-notch amplifying system, including microphones set in the footlights.

It even has special seats with deaf aids for the hard of hearing.

The same care that went into acoustical problems is evident in the more intricate electrical system. The wiring alone cost about \$750,000. There are thousands of lights, radio and TV facilities, air conditioning, as well as elaborate fire alarm and night watchman systems.

Stage lighting is the most modern available, and all remote-controlled. It can be pre-set so that the operator can change

(Continued on page 20)



IN RECENT WEEKS workmen have been busy installing air conditioning facilities in the new building. The centre has the largest stage of its type in Canada.



SIZE of this control panel indicates how intricate the centre's lighting facilities are. Wiring alone is said to have cost three-quarters of a million dollars.

Modern construction techniques are evident wherever you look at the O'Keefe Centre, which embodies such electrical features as:

- Two 5,000-ampere circuit-breakers, one for lighting, one for power.
- Air conditioning throughout from a 900-ton central refrigeration unit, with two 450-horsepower compressors.
- Diesel generating equipment which will switch on automatically in the event of an outage.
- Remote-controlled stage lighting.
- 155 miles of electrical wiring, 28 miles of conduit.

## ELECTRICAL FEATURES AT THE CIVIC CENTRE



LITERALLY changing night into day, Ontario's Prime Minister Leslie M. Frost pressed the button to illuminate the Arcade of Light, a new C.N.E. attraction. Ontario Hydro Chairman J. S. Duncan also participated in the ceremonies.

THE brightness of 300 moons dazzled a crowd of several thousand after Prime Minister Leslie M. Frost of Ontario pressed a switch, illuminating the "Arcade of Light" at the Canadian National Exhibition.

Sixty high-powered floodlights mounted over the entrances to the Automotive and Electrical Buildings leaped into brilliance, literally changing night into day in a 15,372-square-foot area between the buildings.

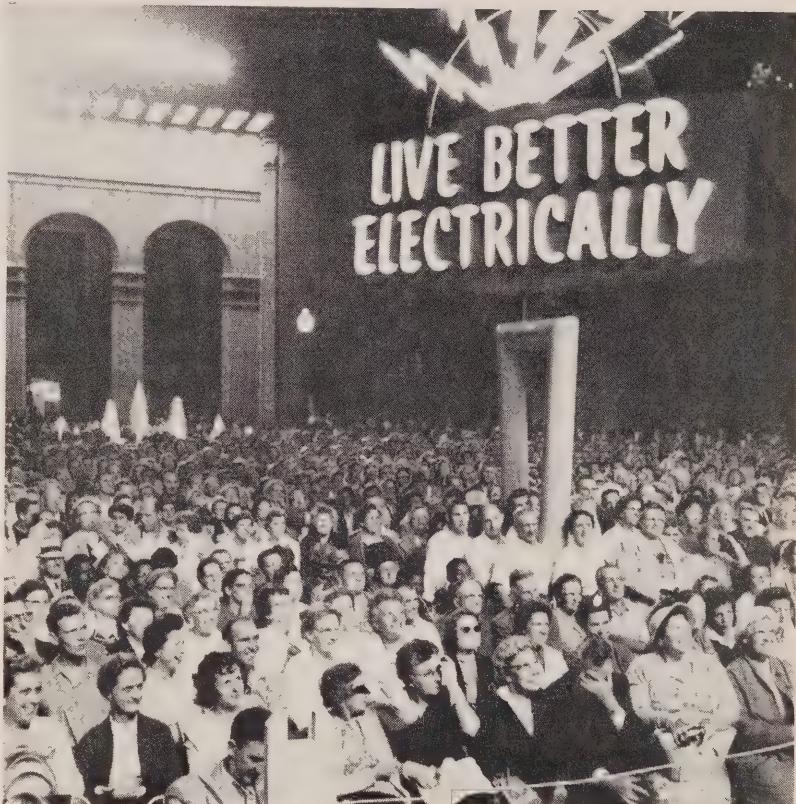
With an illumination level of 60 foot candles—300 times that of moonlight—the area puts State Street in Chicago, ballyhooed as the "Brightest Street in the World," in the dark. The "great street" maintains only 17-foot candles at night.

A permanent installation, the "Arcade of Light" cost an estimated \$20,000. Designed by the Canadian Electrical Manufacturers' Association, its introduction at the C.N.E. was jointly sponsored by Ontario Hydro and CEMA, who are sharing the cost of equipment. The C.N.E. placed the lights, and will pay for the electricity.

On each of the buildings are 15 four-lamp, six-foot fluorescent

## THE ARCADE OF LIGHT

### 300 MOONS BRIGHT



INAUGURATION of the Arcade highlighted 1960 C.N.E. opening, and attracted a huge throng of patrons. Photographers recorded the event without using flashbulbs.

units and 15 incandescent floodlights of 1,500 watts. Each unit weighs about 100 pounds.

About 100 kilowatts of power are used by the arcade, and a special service had to be run from the transformers in the two buildings up to their roofs.

Bright enough for reading or taking pictures without flash bulbs, the 183 by 84-foot area is 50 per

cent brighter than the C.N.E. football stadium.

It was a major attraction at the C.N.E. located near the Prince's Gate, where a bulk of the exhibition's more than 2,000,000 visitors entered.

In addition to the lights, the Arcade features a revolving, 19-foot-high neon sign bearing the  
(Continued on page 23)

**Nuclear Power A Feature of Hydro's C.N.E. Exhibit**

# ACCENT ON THE ATOM

WHILE she was on duty in the Hydro Building, attractive Darlene Smith had little difficulty in attracting throngs of C.N.E. visitors as she explained features of the Douglas Point Nuclear Project model on display.



Visitors to the Canadian National Exhibition in Toronto this year saw one of the most comprehensive exhibits ever produced by Ontario Hydro.

Models, maps, murals and a life-size, all-electric home were features of the intriguing display.

Highlights included a model of the coal-fired Lakeview Generating Station near Toronto, with a planned capacity larger than any similar plant now in existence, and a model of Canada's first full-scale nuclear-electric station, fueled by uranium. For the homeowner, Hydro's home-in-the-round was a showcase of the latest electrical equipment and appliances.

At Toronto Hydro's exhibit in the same building, visitors rested their Exhibition-weary feet and watched a lecture and demonstration entitled "The Flame is Going Out."

Also on stage was Connie Kinnear, Toronto Hydro home economist, who demonstrated time-saving tricks with small appliances. Across the room, visitors could see examples of special lighting effects, a comparison of several types of fluorescent bulbs and a dial-it-yourself illumination booth. Supplementary electric heaters were on display nearby.

Prior to the C.N.E. opening, the Hydro Building display was unveiled at a special press preview by James S. Duncan, chairman of Ontario Hydro, and Bertram Mer-

son, chairman of the Toronto Hydro-Electric System.

The scale model of the Douglas Point Nuclear Power Project showed visitors the shape of the generating stations of the future. Different in appearance from conventional thermal plants, the Douglas Point station's most impressive architectural feature is the circular main building which houses the reactor. One hundred feet high, it is capped by a steel dome 130 feet in diameter.

Also on view were illuminated panels and displays tracing new developments in farm electrification and service to the nearly half million rural customers supplied by Ontario Hydro, and in generation and transmission facilities. There was also an exhibit of the extra-high-voltage (EHV) transmission development planned by Ontario Hydro. North America's first major 460,000-volt line, it will deliver power from remote hydroelectric stations on the James Bay watershed in Northern Ontario.

Hydro's model home completed the story of electricity. Built around a tree-shaded court, it was a graphic illustration of the modern way of life.

On hand were 14 graceful hostesses to explain the many uses of electricity in the home. All high school seniors from Metropolitan Toronto, the girls gave a polished 12-minute description of the home's many features.

These included an electric range with a pull-out cooking surface and a frost-free refrigerator. In the model recreation room lighting effects and the latest in entertainment equipment were stressed.

This year the Gold Medallion Home, the name conferred by the electrical industry on homes having the necessary electrical appliances and electric heating, was backed up by a Medallion Court. Attendants in the information booth provided answers to visitors' questions about appliances, equipment, wiring and other aspects of "Living Better Electrically." ■



THREE PROMINENT municipal Hydro figures (l. to r.): O.M.E.A. President Dr. V. S. Wilson, Past President Bert Merson, chairman of Toronto Hydro, and A.M.E.U. Central Region President Harvey Philip, Oakville-Trafalgar Township P.U.C., were among the guests at a special preview.



LAST-MINUTE instructions are provided by M. E. Bradden, Hydro's supervising information officer, for five of the 14 girls who acted as hostesses in the all-electric home. From left: Carol Davidge, Susanne DeViney, Linda Purcell, Mr. Bradden, Jeannette MacDonald and Ann Kingsbury.

## PART 2 - WRITING THE

A WRITTEN article can be a virtual encyclopedia of information and still fail to do the job.

Professional journalists and communicators know this. Too few others are aware of it—or, if aware, are sometimes reluctant to give credence to it.

Much of what is written today is aimed at a restrictive audience. Technical journals and literary magazines are examples. Even some of the best national consumer magazines—while they have a broad audience—cannot hope to cover every economic, social and educational level in adult society.

The popular press (your local newspaper), has the broadest audience of all, however. It goes into homes in every segment of the social structure. A great part of this success stems from the fact that the information a newspaper contains is in STORY form.

The newspaper writer is a tale teller, and part of his craft is the ability to weave a good story from day-to-day news. At the same time, of course, his reports must be objective.

A news release writer, if he wants to obtain a high degree of acceptance for his material, should practise his art in a similar manner.

Part I of this article, which appeared in the July-August issue of *Ontario Hydro News*, mentioned the need for establishing a good working relationship with the newspaper editor. It also examined the question of what is news and what is not, and outlined the value of having releases properly typewritten.

We now become concerned with the essential problem of writing the material that goes into the release.

How is the story told? What

sort of language should be used? How long should the release be? What information should be provided, and what omitted? These are questions the release writer should try to answer with every release he prepares.

Basically, his job is to dress a newsworthy item in such a way that it becomes an attractive package for the editor. The successful publicity program is predicated upon this understanding.

Some rules are basic:

1. Above all else, the writer should seek simplicity and clarity in his presentation. He should strive for relatively short paragraphs and uninvolved sentences. He reasons that the reader—whose attention is being competed for by a wide range of books, periodicals, television and other media—will probably ignore a message that is not easy to read and understand.

2. The story should contain enough information about the subject that readers are not left with too many unanswered questions when they have finished reading.

3. General speaking, the items of information used should be arranged in descending order of importance.

4. The story should begin with a strong "lead" or introduction. Top flight news writers are the ones who can spot an unusual aspect in a news story, and use it in the lead to intrigue readers and pull them into the story itself.

These are probably the basic elements of a good newspaper style of writing. They are also essential to written material for farm magazines, trade publications, radio stations and other publicity media as well.

With experience, the publicity

# RELEASE

writer will discover other secondary characteristics of a news story which will vary with the media for which they are prepared.

Here are some of them:

1. Consistent punctuation, capitalization and spelling are essential. (Generally speaking, Canadian newspapers use American, rather than English spelling, and prefer a minimum of capitalization.)

2. Brevity is important. A release probably should not exceed three pages in length. In a majority of cases, a page or a page-and-a-half should suffice.

3. Technical matter should be avoided in the release itself. Engineering data, graphs, etc., can be attached separately to the release for the editor's background information.

4. Any individual mentioned or quoted should be properly identified with full name, two initials and his position if pertinent.

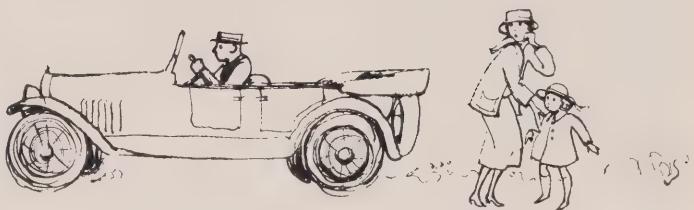
5. The story should sound sincere. Pretentiousness on the one hand and chattiness on the other can offend readers.

6. A promotional theme just isn't acceptable. The release writer should avoid "plugging" his company's products in a release, although, if handled carefully, it is often all right to mention the company's good position in an institutional way.

The individual authorized to prepare releases should have a good dictionary, a copy of some such English usage manual as H. W. Fowler's *Dictionary of Modern English Usage*, and also a copy of a newspaper style book. Such texts aren't absolutely necessary of course, but, in the long run, they'll more than earn their initial cost.

One last point: if a publicity  
(Continued on page 23)

## A Case for Good Press Relations



A FRIEND likes to recall how his great-grandfather, having purchased his first automobile, in 1922, drove the machine proudly home despite the fact he had never before operated one.

Things went along fine until he reached his house. Then the old gentleman discovered he didn't know how to turn the motor off. Round the block he went, hunting feverishly, meanwhile, for the proper control.

The friend, who was a pre-schooler at the time, recalls that by the time his great-grandfather had circled the block once, the whole neighborhood had gathered to see the show. By the time they got the machine stopped, three laps later, half the town was on hand.

The young man who leaped onto grandfather's flying auto (15 m.p.h. plus) and succeeded in bringing it to a halt, was a neighborhood hero for weeks afterwards.

But the incident is a reminder of just how much habits and customs have changed in four decades. Under similar circumstances today, that young man would have been a hero only if the city's press and radio learned of his good deed. Otherwise, word of his courageous act might not have spread beyond the block.

Today, man lives in a large community and has far broader interests than he did 40 years ago. Today he is less inclined to chase fire engines; less likely to be found watching a building construction job down on the corner; less fond of swapping news with his barber or the attendant at the local service station.

These changes also reflect on modern business enterprises. In 1925, a retail store could develop a reputation for handling only reliable merchandise by guaranteeing value to all purchasers. Word of the store's policy always got around.

Today, that same store must use advertising and publicity as a constant reminder of its honesty and integrity.

The reputation of any business—whether it be a factory, a store or a utility—will reflect its integrity, efficiency and good neighborliness. These things can be a matter of record only if the community knows about them, and today the community has to be told and frequently reminded.

Here is the best case for good press relations. ■

## 900 MILLION COMMUNISTS

*(Continued from page 11)*

to which the Western World is dedicated isn't capitalism as such but freedom.

The real issue which divides us is the Soviet's commitment to the inevitable transformation of all other states to the Soviet system. This indeed is the essential cause of conflict.

This basic conflict, which is so frequently glossed over in Soviet Russia, is stated with the utmost clarity by the People's Republic of China.

Until the Communist nations abandon the objective of coercing other nations by force, by economic pressures, or by subversion, into adopting their political philosophies, talk of status quo and peaceful co-existence cannot be realistically regarded as but a means to an end.

Until the Communist world retreats from this objective, there can be no real peace between us.

Regardless of the sacrifices involved, we in the Western World must redouble our efforts to meet this challenge, not only in the field of deterrent military forces, but economically, educationally and in our relations with the less fortunate people in the underdeveloped countries.

Let us be quite clear about this — the Western World's survival as a free, independent, democratic people depends upon our ability to do so.

It would be ungenerous if, in closing, I did not pay tribute to the wholehearted, and, at times, almost overwhelming hospitality which our Canadian delegation received during our visit to Soviet Russia. All the people whom we met were friendly, co-operative, and ready to answer with precision and frankness the numerous questions which we placed before them.

We returned from the U.S.S.R.

more convinced than ever of the value of exchange visits between the ordinary people of both our countries. The more we Canadians can do to foster such visits, and to receive Russian citizens in our country with the same generous hospitality that we received in theirs, the more we will contribute to the breaking down of distrust and of misunderstandings between us.

This may be a slow process, but I can think of no better one for the time being. ■

## NOTHING BUT THE BEST

*(Continued from page 14)*

effects for as many as 10 scenes ahead by pushing a single button.

The largest theatrical stage in Canada can be adjusted from 60 to 36 feet wide, from 30 to 18 feet high, and lighting adjusts with it automatically from the 85-foot stage tower and bridges.

Service lighting throughout the auditorium is likewise remote-controlled from central locations, where indicators show which areas are illuminated at any time.

Offstage is a 60- by 45-foot rehearsal studio, with radio and television rooms overlooking it from observation windows. Both sides of the auditorium have announcers' rooms with adjacent facilities linked with a master control room.

Another unusual feature — the orchestra pit, 10 feet deep, is actually an elevator. Musicians get on below from the dressing and rehearsal rooms, and are automatically hoisted up to the proper level.

### Two-Storey Structure

You have an idea what to expect as soon as you approach the two-storey structure of glass, granite, limestone and bronze.

The entrance — 52 feet wide in case there's a stampede for seats —

leads into a 1,600-square-foot vestibule. Then another entrance-way leads to the cavernous marble foyer. There's not a stair along the way. And if you have a balcony seat, an escalator will whisk you to it.

There are also lounge facilities described as the largest in any North American theatre or auditorium.

The main lounge is dominated by a 100 foot mural depicting the Seven Lively Arts through the ages — and thereby hangs a lively tale.

While R. York Wilson was working on it, the Painters' and Decorators' Union complained that the Centre was an all-union job, and he and his two assistants should take out cards.

Wilson rebelled. Controversy raged. Finally, while refusing to accept an honorary membership, he agreed to finish the job alone. And he was alone for almost two weeks, until the union agreed his assistants — still non-union — could join him.

All this came during the general rush to complete the building. One day Wilson questioned an assistant about a piece of the mural that didn't look right, and found it was a blob of tar that had dropped from the roof.

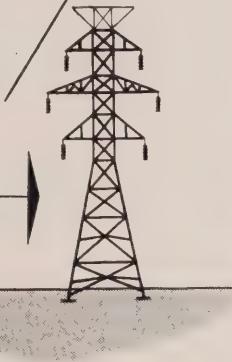
While the finishing touches were being put on, critics, producers and performers toured the Center.

There was a minority of doubters who wondered if it wasn't just TOO big for many shows. Critic Mavor Moore, for example, found it wasn't versatile enough to change with the times and predicted, "In 20 years it may become Toronto's splendid white elephant."

But most Broadway representatives seemed delighted. Lawrence Langner, founder and director of the Theatre Guild, could find only one drawback:

After playing in the O'Keefe Centre, he said, actors and musicians wouldn't be satisfied with any other theatre on the continent. ■

# ALONG HYDRO LINES



## Ridgetown PUC notes large increase

"Living better electrically" has brought about a 40 per cent increase in the consumption of electricity in Ridgetown during the last five years.

E. A. Hodgson, manager and secretary of Ridgetown Public Utilities, has announced that the PUC is supplying more power to more consumers than at any time in its 44-year history.

## G. Roy Blake named Woodbridge Area Manager

Associated with Woodbridge Rural Operating Area for the past 31 years, G. Roy Blake has been appointed area manager succeeding L. D. Pengelly, who retired recently. Mr. Blake, who was born and educated at Woodbridge, is active in community affairs.

## Buys Canadian

Ninety per cent of Ontario Hydro's purchase orders last year —\$61 million—went to Canadian companies.



## UTILITIES COMPLETE AMALGAMATION

ESTABLISHED by an act formally approved at the last session of the Ontario Legislature, amalgamation of the new Oakville-Trafalgar Township Public Utilities Commission has been in progress recently.

The new utility, which is designed to cope more effectively with the electrical and water distribution problems caused by rapid residential and commercial expansion in urban Oakville and neighboring Trafalgar Township will be administered by a commission headed by Lt.-Gen. H. D. Graham, C.B., D.S.O., C.D., Q.C., former chief of the Canadian Army general staff, who will act as neutral chairman. Representing Trafalgar Township will be Commissioner Gordon Leaver and P. J. Blundy, while Hilmer B. Lofquist and Cameron Hillmer have been named to the new commission on behalf of the Town of Oakville.

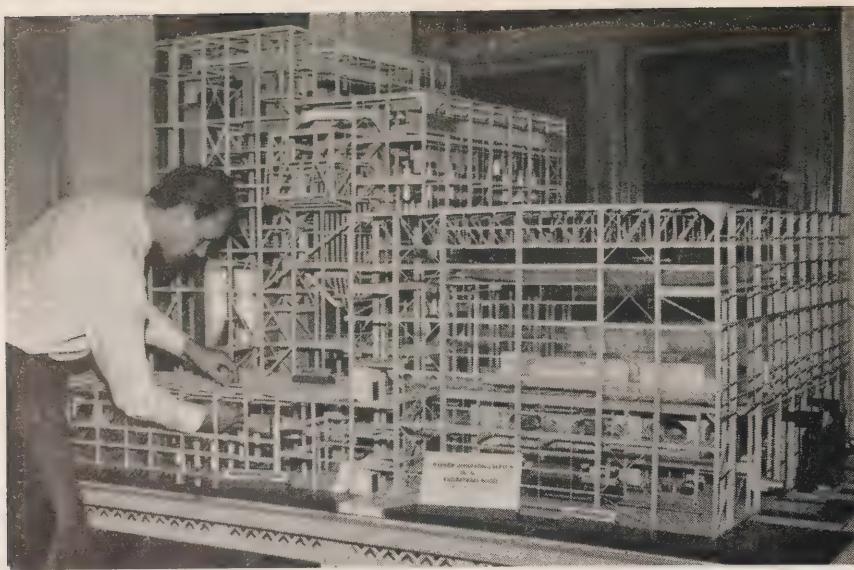
Senior staff members include: R. L. Barlow, P.Eng., general manager and secretary, who held this position with Oakville P.U.C.; and R. H. Philip, Hydro manager, former manager of Trafalgar Township P.U.C. Formerly Office Manager with the Trafalgar system, John Morris has been ap-



pointed to a similar position with the re-constituted utility; Bert Croll and Ralph Feero have been appointed Hydro and Water Superintendents, respectively, while Frank Heath is the new Accountant-Treasurer.

Headquarters of the re-organized utility have been established on the 7th line of Trafalgar Township in the handsome new building completed last year by the township utility.

In the upper photograph, members of the newly-organized commission are shown at one of their initial meetings (left to right): Cameron Hillmer, P. J. Blundy, Lt.-Gen. Graham, Hilmer Lofquist and Gordon Leaver. In the lower photograph senior staff members confer (left to right): Bert Croll, Harvey Philip, Frank Heath, Jack Morris and R. L. Barlow. ■



## MODEL PLANT

PLANNING, design and assembly of Ontario Hydro's detailed engineering model of the Lakeview Generating Station involved not only the fundamental design by engineers, but also the diversified skills of personnel in a number of Commission departments. The results of these combined efforts are revealed in this picture of the model, which comprises some 10,000 individual parts. It measures approximately 8 feet long, 5 feet wide and 4 feet high, and weighs about 130 lbs. Beside the model is Kurt Heinze, a draftsman on the staff of the Commission's Generation Design Department, who played a major part in completing the actual assembly work. Mr. Heinze, who has been with Ontario Hydro for more than nine years, is registered with the Association of Professional Engineers of Ontario as an engineering technician. ■

### Area crews honored for safety records

Two area staffs of Ontario Hydro's Central Region have won recognition for their safety records. In recognition of their achievement in reaching a total of 2,070 continuous days without a lost-time accident, the staff of Sutton Area received a framed certificate from Regional Manager Adam Smith recently. This area covers approximately 300 square miles around the southern end of Lake Simcoe. The area staff of 40 is responsible for maintaining Hydro service to some 8,000 customers, and the line and forestry crews take care of nearly 350 miles of distribution line.

Woodbridge Area staff were

honored recently for their record of 1,159 continuous days without a lost-time accident.

### Industrial book published by Hydro

Manufacturing concerns in the United Kingdom are being made aware of industrial development opportunities in Ontario through an informative new brochure published by Ontario Hydro.

Entitled "Ontario—The Heart of a Dynamic Continent," the book has been appraised as "an accurate account of conditions" in Canada. It should prove an invaluable aid to British firms which may be considering the expansion of their activities into the Canadian market.

### Wesley Tindale, Tara P.U.C. secretary-treasurer, dies

Well-known Tara merchant, Wesley Tindale, 67, secretary-treasurer of Tara P.U.C., died in a Toronto hospital after a heart attack. Born and educated at Fergus, the deceased operated a store at Tara for more than 40 years. Active in community affairs, he was a United Church member and well-known in fraternal circles, besides serving as village auditor and an executive of the local utility. He is survived by his wife, one daughter, two grandchildren, as well as two sisters and one brother.

### Utility places appliances in home economics rooms

Toronto Township Hydro-Electric Commission, always an active participant in the "Live Better Electrically" campaign, has announced its decision to encourage interest in the benefits of electricity among the younger generation by placing new major electrical appliances in several local schools. When students returned to school this month they found the home economics classrooms of three junior high schools and two secondary schools equipped with gleaming new appliances donated by the Toronto Township utility, which has plans for extending this program during the coming months.

### MOTHER EARTH IN 3-D

(Continued from page 5)

quired, and transferred to mosaics by means of transparent overlays, provide a graphic illustration of the information derived from aerial photographs in any given location.

Versatility and economy are important words in the Survey Department's vocabulary, but the application of photogrammetry with its varied functions, combined with an adequate knowledge of job requirements, give such words a vivid reality by making practical and economical work possible. ■

## PUBLICITY: PART II

### WRITING THE RELEASE

(Continued from page 19)

program is to do a good public relations job, its authors should strive to keep their releases meaningful and timely.

There's no point to issuing a release which contains no worthwhile news. Too many releases, too often, and the editor will begin to despair of ever finding anything worthwhile in the publicity material he gets from a firm.

The program ceases to have any effectiveness whatsoever when the busy editor finally capitulates and consigns unopened envelopes into his wastebasket.

He'll be equally harsh with any news release that tells a story—no matter how good—after the event ceases to be news. By the same token, he will heap blessings upon the organization that consistently favors him with news while it is still fresh and usable.

He does, after all, edit a NEWS paper.



GETTING SET for an old-timers' softball game are Windsor's Mayor Michael J. Patrick and contractor Gordon H. Fuller, both Commissioners of Windsor's Public Utilities Commission. The game was held on July 15, in aid of pee-wee softball teams sponsored by two branches of the Canadian Legion. The game marked the opening of Windsor Stadium's lighted softball diamond.



LANDSCAPING adds a touch of beauty at the Peterborough Public Utility Commission's substation on Romaine Street. Flowers, shrubs and cedars are all part of a plan to make the 11 substations in Peterborough more attractive to the sections in which they are located. Trees will not screen the transformer and other equipment, but they relieve the drabness of the lot and brighten the background of the fence.

### Peterborough U. C. approves supervisory control system

Construction of a new building to house supervisory control equipment for the city's electrical facilities has been authorized by Peterborough Utilities Commission. The total estimated cost of the project is \$70,000. Demolition of a warehouse on the utility property will be necessary to make way for the new control building. Installation of the new equipment will have several beneficial effects, General Manager Howard Powell told commissioners, including: Speeding up location of system faults; improving usefulness of substation operators by permitting them to leave their posts to perform other important duties, and eliminating the need for duplicate water and electrical records.

### Mitchell area office to be closed

Ontario Hydro has announced plans to close Mitchell Area Office with the transfer of its operations to the three adjacent areas of Clinton, Listowel and Stratford.

Economy of operation is the chief reason for the move. However, full security of service will be maintained and local alternative facilities for payment of bills will be established.

The program is being undertaken in three stages, with completion planned for late in 1961.

### 300 MOONS BRIGHT

(Continued from page 15)

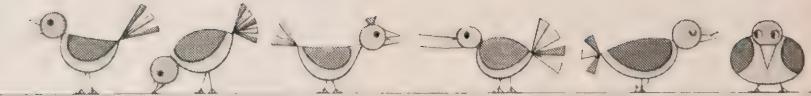
"Live Better Electrically" slogan and glittering banners stretched over the white-painted roadway area.

Taking part in the official ceremonies with Prime Minister Frost was Ontario Hydro Chairman James S. Duncan.

Other notables included Harry Price, president of the C.N.E., George Wilcox, president of CEMA, and other officials from the three organizations.

Percy Saltzman, CBC-TV's Weatherman, was master of ceremonies. Following the floodlighting, CBC-TV star Don Messer presented his "Jubilee" show from a stage on the Arcade.

## OFF THE WIRES



ONTARIO HYDRO received a nice bouquet from the *Cornwall Standard-Freeholder* in a recent issue. The Cornwall paper, which has been a consistently good friend of the Commission, particularly during the period of upheaval associated with the St. Lawrence Power Development, has drawn attention to the extensive landscaping work in the vicinity of the Robert H. Saunders-St. Lawrence Generating Station.

\* \* \*

THE NEWSPAPER article points out that "Trees and shrubs are being planted, and flowers are already growing in the area of the massive powerhouse." It was very surprising to note that 18 varieties of trees, including several types of maples, spruce, birch and willow, as well as such Canadian natives as oak and ash, besides 15 different types of shrubs, will adorn the area.

\* \* \*

ALLUDING to future plans to establish facilities for an assortment of sporting activities, the *Standard - Freeholder* expresses the view that such a project "will turn the area around the powerhouse into a top-notch tourist attraction."

You can't buy favorable publicity like that!

AND WHILE we're on the subject, the Peterborough Utilities Commission has been receiving some editorial praise from the *Peterborough Examiner* for the landscaping work around a local substation.

There are many utilities, we're certain, which have done some very effective work around their local substations, but they haven't seen fit to bother about focusing public attention on their landscaping efforts. As the author of the current series on Publicity appearing in this magazine points out—don't hide your light under a bushel!

\* \* \*

AND NOW for a word on the Jones boys! They're three brothers: George, Jack and Chester Jones, who, with a combined total of Commission service amounting to 101 years, are believed to hold the present, long-time record.

\* \* \*

GEORGE JONES started work with the Commission on a Sunday 37 years ago. He was scheduled to start on Monday, but trouble developed in the Woodbridge area, and he was asked to assist in the emergency. He has never stopped since. Now he's Central Region's Electrical Maintenance Superintendent. Jack Jones is the oldest

of the trio, and he's Operations Superintendent for the Central Region. Chester is General Superintendent of the Lakeview Generating Station project west of Toronto. He joined the Construction Division staff 32 years ago, and is the only one of the three with a continuous record in one type of work. Anyway, hats off to the Jones boys!

\* \* \*

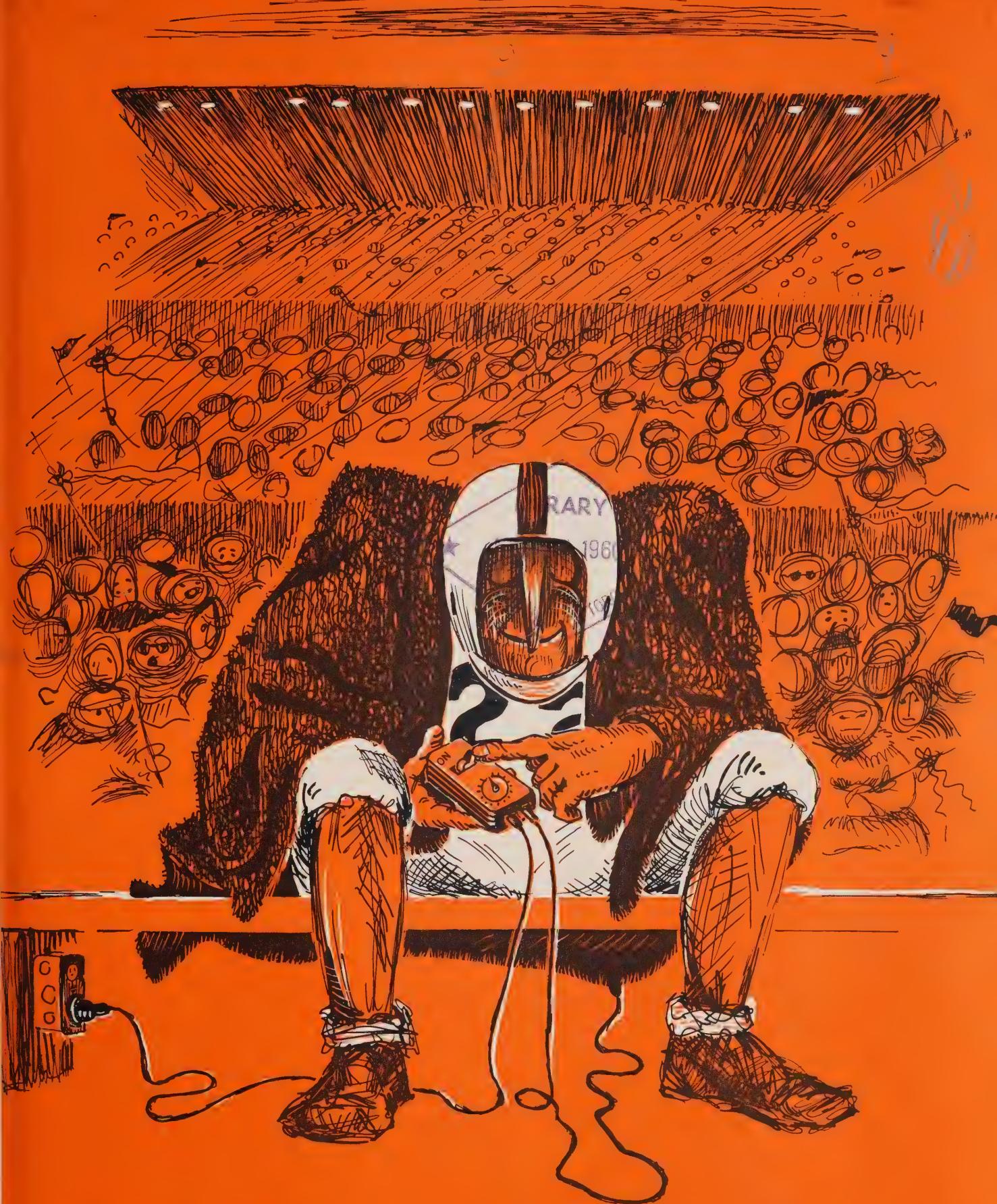
DON'T GO into a restaurant and order Mishiminpitossitekigan and Meshkawakading-bimaigon. Chances are the waitress won't know you want apple pie and ice cream.

\* \* \*

That's the equivalent in the Ojibway Indian tongue. When members of the Heron Bay Reserve celebrated the inauguration of Hydro service recently, they (and all the guests assembled) sat down to a dinner of Pitchi-oginimianabo (tomato juice), Kokosh-wiass (ham), Opinig (potatoes), Dagondkigan (salad), Nibishabo gonima (tea), and, of course, that—(see the preceding paragraph).

For our money, we'll have second cup of Mokate mash-Kikwabo (coffee) and strong too. We've got a horrible headache trying to spell those Ojibway words. ■

Ont. Hydro Electric Power Commission



**ONTARIO HYDRO NEWS**



# ONTARIO HYDRO NEWS

## THE COMMISSION

JAMES S. DUNCAN, C.M.G., LL.D.  
Chairman

W. ROSS STRIKE, Q.C.  
First Vice-Chairman

HON. ROBERT W. MACAULAY, Q.C., M.P.P.  
Second Vice-Chairman

LT.-COL. A. A. KENNEDY, D.S.O., E.D.  
Commissioner

D. P. CLIFF  
Commissioner

J. M. HAMBLEY, B.Sc.  
General Manager

ERNEST B. EASSON, B.Com.  
Secretary

## EDITORIAL BOARD

JAMES S. DUNCAN, C.M.G., LL.D.

DR. V. S. WILSON  
President, O.M.E.A.

HARRY HYDE, P.Eng.  
President, A.M.E.U.

J. M. HAMBLEY, B.Sc.

ERNEST B. EASSON, B.Com.

JAMES A. BLAY

BOYD L. GRAHAM

Editor - BOYD L. GRAHAM

SUBSCRIPTION: \$5.00 PER YEAR

Published by  
the Information Division of  
The Hydro-Electric Power Commission of Ontario  
620 University Avenue, Toronto.

Authorized as second class mail, Post Office  
Department, Ottawa

Material published in Ontario Hydro News may  
be reprinted without permission.  
Most photographs are obtainable on request.



Member of the Canadian  
Industrial Editors Association  
and the International Coun-  
cil of Industrial Editors.



OCTOBER, 1960

VOL. 47, NO. 10

## CONTENTS

PAGE

Power Gargantuan	2
New Lakeview project making rapid progress	4
Season for the Seaway	4
Ship-to-shore report on the world's longest inland waterway	9
He Will Remember Vienna	9
Ontario Hydro represented at international conferences	10
Old Town in the Valley	10
A quick glance at Dundas, Ontario	15
Power Pioneer	15
The story of S. B. Hood	16
TV Watchdogs	16
Closed circuit cameras keep tab on thermal- electric station equipment	18
After 280 Years	18
Niagara Falls is still a big attraction	20
They Raise Goats at Rosegate	20
Electricity has many uses at this Ontario farm	22
Along Hydro Lines	22
Capsule review of utility operations	28
Let's Chat	28
With Ontario Hydro Homemakers' Service	29
Off-the-Wires	29
Editor's comments	

## ABOUT THIS MONTH'S COVER

WE asked Rusins Kaufmanis, a member of Ontario Hydro's Supply Division staff, for his impressions of a Canadian rugby game. He responded with the sketch on this month's front cover to prove that bench-warming can be a comfortable pastime—if one has the proper equipment.

## New Worlds for Old

AT a time when many Canadian industries are feeling the pressure of foreign imports and calling for legislative protection against such competition, a business executive has urged Canadians to scrap such ideas and look to greater industrial enterprise and efficiency as a solution to the problem.

Quoted in a recent editorial in the *Toronto Globe and Mail*, Karl E. Scott, executive vice-president of the Ford Motor Company of Canada, said Canada's "survival and growth as an economic power, with fuller employment and beneficial living standards, cannot be guaranteed by legislation."

Commenting on Mr. Scott's address, the editorial said, in part: "Perhaps the most useful point made by Mr. Scott was that the New World, which once prided itself on its technological prowess, is now in danger of becoming the Old World, clinging to outdated methods and attitudes in the face of competition from an Old World that in the last few years has had an explosive technological renaissance."

"Mr. Scott underscored this situation with some trenchant expressions: 'Almost overnight, with bewildering swiftness, we are in a new world of new ideas, new weapons, new degrees of human productivity. . . . Let us not have a buggy-whip economy in North America by comparison with the new world economy. . . .'

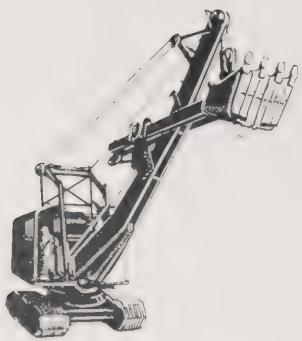
"For the present difficulties of Canadian industry, Mr. Scott has a sternly simple solution: Adapt to the new world economy, compete in it on the basis of price and product, turn out the kind of things people want and will buy. The problem here, as Mr. Scott recognizes, is Canada's high-cost structure. European and Asian industries, with mass production techniques every bit as good as ours, have the advantage of lower costs. We must recognize this advantage and meet it by placing greater emphasis on productivity."

"So what is holding us back. . . . Mr. Scott found it necessary to say that 'a climate more conducive to industrial progress is sorely needed in our country.' While professing to desire economic progress, Canada has developed a climate of opinion and conduct which retards economic progress—which scolds and penalizes the competent, which flatters and coddles the incompetent.

"This is a folly we can no longer afford—if, indeed, we ever could afford it. Canadians can make the progress they want and need only by being progressive—which means by being efficient and enterprising themselves, by honoring efficiency and enterprise in others. The new world economy requires us to scrap the idea, drilled into us over the last generation, that enterprise and efficiency are anti-social."



ONE of the massive, 22-foot-wide spillway sluices serves as a frame for these three workmen at Ontario Hydro's Otter Rapids plant, now under construction on the Abitibi River, 93 miles north of Cochrane. Taken from the upstream side looking north, this picture shows a 55-ton capacity gantry crane on top of the sluiceway structure. Each of the steel sluiceway gates weighs over 30 tons. These gates can be raised, as the one shown, to release surplus water. When flooding of the headpond area takes place, the water level will rise to a point more than 30 feet above the heads of the three workmen.



WHILE FORMING this impression of Ontario Hydro's Lakeview Generating Station, a seagull probably would not realize that the stack is close to 500 feet high. The huge structure, also reproduced below, is the first of three and measures 40 feet in diameter at the base and 24 feet at the top.

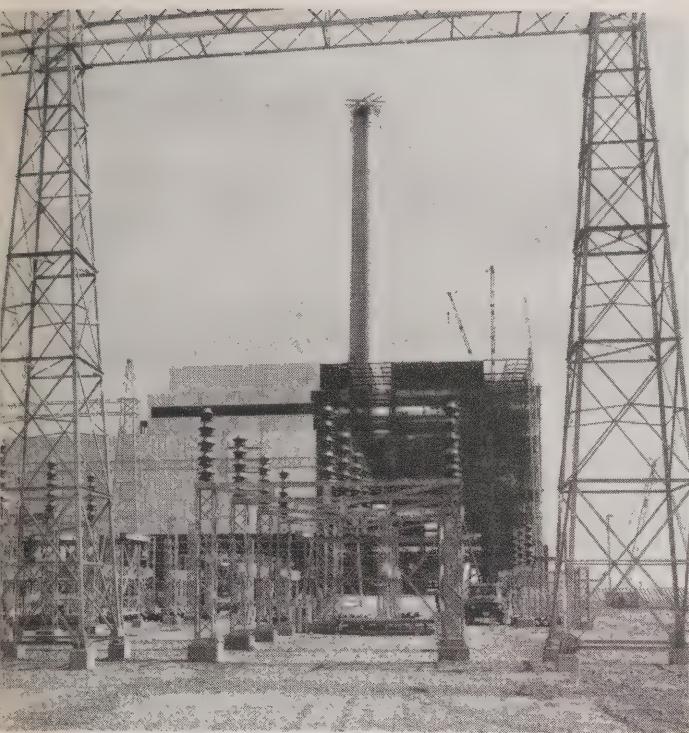


# POWER GARGANTUAN

**Construction crews push ahead on  
new Lakeview Generating Station**

**S**OMETHING new has been added to the skyline of Metropolitan Toronto.

On a lakefront site, near the city's western outskirts, the first of three 490-foot chimneys for Ontario Hydro's coal-fired Lakeview Generating Station—the largest thermal-electric power project presently under construction in the world—is attracting attention from local citizens, motorists and even aerial travellers.



LARGEST thermal-electric station presently under construction in the world, the Lakeview powerhouse taking shape here approximates the height of a 20-storey building. When the plant's six units are operating, the switching area will accommodate five football fields.

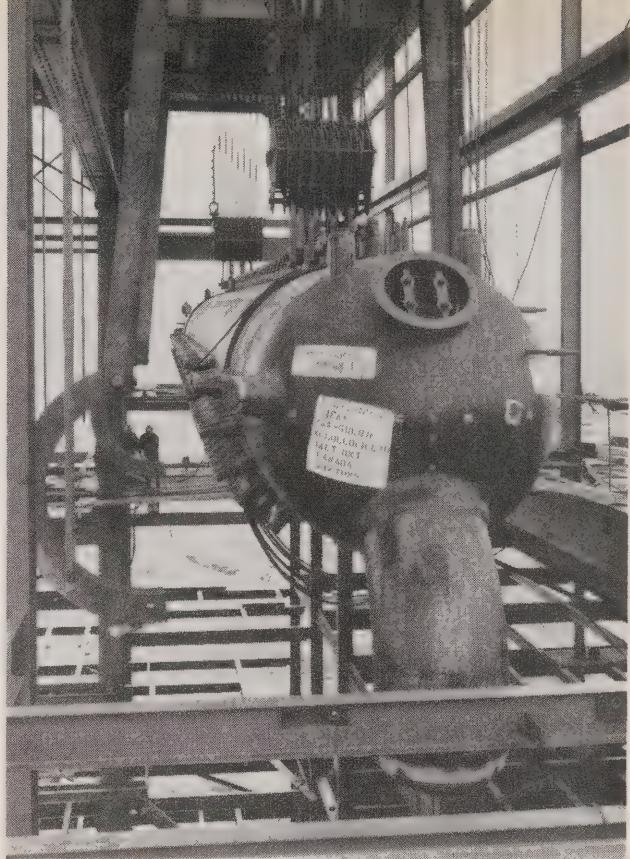
By the mid-1960's, the \$250,000,000 station on the former site of the Long Branch Rifle Ranges will be operating with an expected capacity of 1,800,000 kilowatts from six units. This is nearly equivalent to one-third of the peak electrical demands of the 1,830,000 Hydro customers served last year.

Work on the first two 300,000-kilowatt units—one is scheduled for operation next year and the other in 1962—is proceeding rapidly.

Structural steelwork on the powerhouse for the first two units is complete. Rising 190 feet from the ground, the steel skeleton, now in place, weighs more than 5,000 tons.

Of concrete shell construction, with fire-brick liner, the chimney is 40 feet in diameter at the base, tapering to 24 feet at the top. Concrete pouring started early in June, and has now been finished. The shell is scheduled for completion later this fall, and the lining early in 1961.

The plant's boilers will be the largest in Canada, and will occupy a space almost equal to the inside of Hydro's 18-storey Head Office building. Each will be capable of producing 2,000,000 pounds of steam an hour to drive the turbo-generators. In May, the



THIS 212-ton steam drum—the biggest in Canada—was hoisted into place in May this year for the first Lakeview generating unit. Each of the boilers will require 110 tons of coal per hour at full load, and will produce a maximum of two million lbs. of steam per hour.

steam drum for the first generating unit—weighing 212 tons—was hoisted into place. The drum for the second unit will be installed around the end of the year.

When all six units are installed, the aluminum sided powerhouse will be 936 feet long and as high as a 20-storey office building.

To feed condenser cooling water from Lake Ontario to the plant—more than 1,200,000 gallons per minute will be needed at full operation—three pumphouses will be built. All rock excavation has been completed for the first pumphouse, to serve the first two units, and concrete pouring for the 95 by 40-foot building is virtually completed.

When in full operation, each of the six units will burn more than 100 tons of coal an hour. A stockpile of 2,500,000 tons capacity will feed the generators.

In the switchyard area of the 128-acre site, where power generated at 16,000 volts will be stepped up to 230,000 volts for transmission, concrete foundations to support switchgear for the first two units are being poured. For all six units the switching area will be large enough to accommodate about five football fields. ■

Ship-to-shore report on another

## SEASON FOR THE

# SEAWAY

by Don Carmichael

**S**HIPWATCHING became a popular pastime in Ontario "coastal" towns and cities last year, when the new \$460 million St. Lawrence Seaway opened the door to the Great Lakes for an estimated 80 per cent of the world's merchant vessels.

Many of the province's potential "deep-sea" ports were among the watchers. Because of inadequate harbor facilities, and for various other reasons, the expected trading bonanza passed them by.

"We can see the ocean ships go by our front door," laconically observed one disgruntled municipal official. "I don't think they've left any money here."

When the locks were closed and the final returns on the inaugural shipping season had been tabulated, most of the ports were figuratively crying in their harbors.

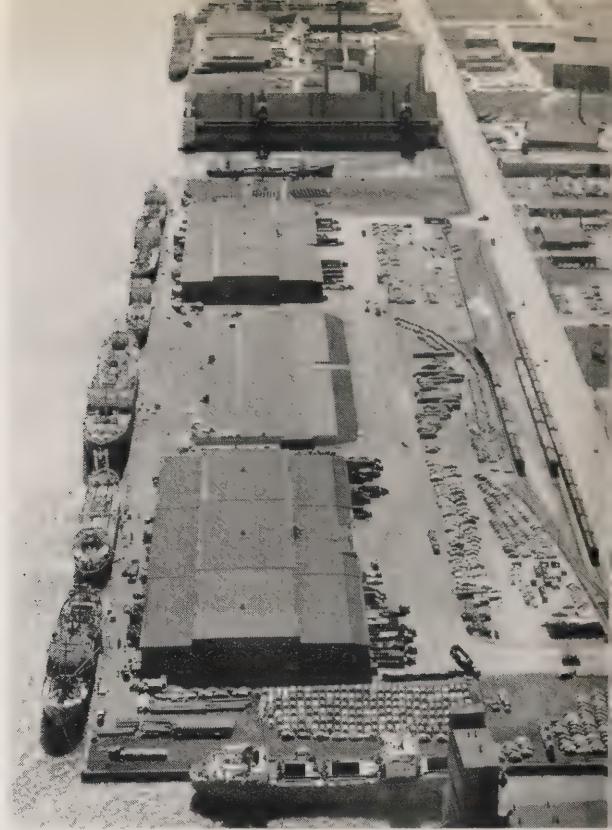
With the exception of Toronto, dubbed the "Cinderella of the Seaway," Hamilton and several others,

Ontario ports did not cash in on the increased traffic flow through the 2,300-mile waterway from the Atlantic to the Lakehead.

And the Seaway itself did not come up to certain predictions. Those who forecast "startling" growth in exports and imports carried by foreign ships, especially in the form of general cargo, were disillusioned. A total of 25,000,000 tons of bulk and general cargo was anticipated, but the figure was 4,500,000 tons short of the mark.

An atomic mushroom of criticism—directed mainly at the Welland Canal bottleneck, where, on one or two occasions, as many as 60 ships rode at anchor waiting their turn through the locks—was heard throughout the land.

Virtually ignored was the fact that the first season was a trial run, when difficulties had to be ironed out and mistakes corrected.



AERIAL VIEW of a section of Toronto's harbor when the terminal yards (right) were filled with foreign-made cars.

The amount of cargo handled was up 73 per cent over 1958 on the 182-mile St. Lawrence section, and 27 per cent on the 28-mile Welland section.

When all was said, the Seaway had done what it was supposed to do. It provided cheaper passage for Canadian wheat and allowed a heavy flow of Canadian iron ore to steel mills in this country and the United States. More foreign goods—ranging from cars to toy bears and canned oysters—reached the industrial and population heart of the continent. Trade and industry were stimulated; inland ports enjoyed a mild boom; jobs were provided, and a new kind of life opened up for centres along the way.

Forecasts of smoother sailing preceded the opening of the Seaway on April 18 this year—one week earlier than in 1959. They were based on experience and



(From the Confederation Life Collection of Historic Canadian Scenes)

#### FIRST ST. LAWRENCE CANAL — 1781

Captain William Twiss, builder of the first lock canal in North America, at Coteau du Lac, Quebec.

more than \$7 million spent on a major overhaul of the Welland Canal. The tonnage target was set at 29,000,000.

Operations this year appear to bear out the optimism. Total traffic on the Seaway from April through July amounted to 9,640,953 tons on the section between Montreal and Lake Ontario, and almost 14,400 tons on the Welland, according to preliminary toll statistics released by the Seaway entities a few weeks ago. These figures represent increases of more than 12 and 17 per cent, respectively, over the same period in 1959.

#### Undercover Trade

The Seaway brought many new things to Ontario's people and

ports. Some of them were unexpected and not a few unusual.

Toronto expected narcotics smuggling from foreign ships, but found the undercover trade to be liquor. A suspicious guard ordered one woman, who came off a ship apparently hugging herself, to lift her arms. There was a crashing sound of breaking bottles. Another undesirable by-product was the Khapra bug, which feasts on stored grain. It was discovered in a ship which came to pick up wheat.

Unusual cargoes included a shipment of 40 cows and one bull for Venezuela, 10 hearses for Malta, and a menagerie which included a pair of white rhinoceroses and two wallabies for the Detroit Zoo.

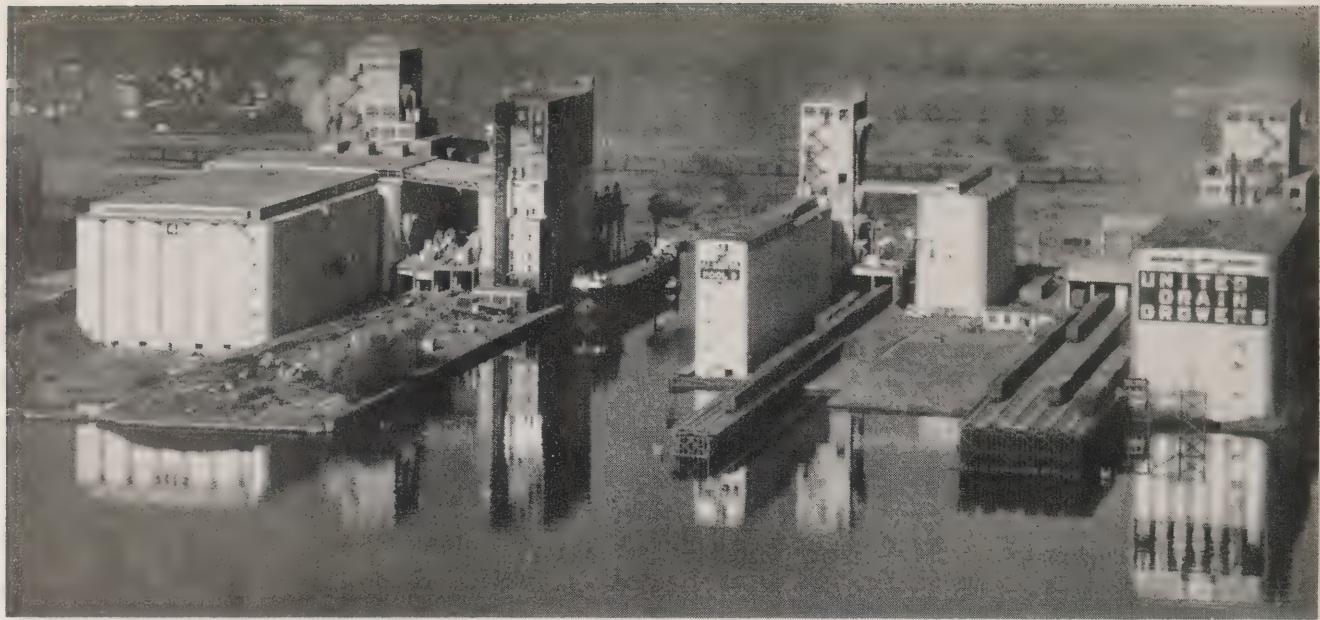
Scandinavian ships were an at-

traction during 1959 because they carried women wireless operators. Inger Lindquist, a pretty 20-year-old operator on a Swedish ship with 34 men, told reporters she was accepted as another crewman, and the men swore as if there wasn't a woman on the ship.

Mishaps that occurred on the Seaway in 1959 were reminiscent of Keystone cop antics in silent movie days. Ships let gear drop into lock machinery, and one vessel lost its propeller in a lock. Other ships collided with fender booms and damaged wire rope fenders.

Despite a handbook of instructions provided for foreign ships, many freighters approached St. Lambert Lock (the eastern en-

(Continued on page 6)



GENERAL VIEW OF LARGE GRAIN ELEVATORS AT THE ONTARIO LAKEHEAD.

trance to the Seaway at Montreal) without a clue. One Greek skipper was given a command to reduce speed so he wouldn't ram the lock. But he didn't understand English and dropped his anchor instead.

One ocean vessel headed, as its skipper believed, for the Welland Canal, somehow missed the Port Weller entrance, and steamed up the Niagara River toward the falls. Fortunately, a startled fisherman set the "Wrong Way Corrigan" right.

But the 1960 season has seen a satisfactory "settling down" in traffic conditions. Masters of foreign vessels, aided by better equipment, and with a year of experience behind them, are reported to be navigating the Seaway like canal veterans.

With the Seaway, bulk carriers that had been held captive in the lakes are now able to continue downstream laden with coal, grains and other high density commodities, and make the return voyage carrying ores from Ungava to feed the hungry Great Lakes' mills and

refineries. In fact, some 90 per cent of Seaway traffic consists of bulk cargo.

A rapid transition from smaller to larger vessels has taken place, and is expected to continue. Several vessels, combining the capacity of "lakers" with the seaworthiness of ocean vessels, have been launched, and more are either on the way or being designed.

A very successful development has been the cutting in half of vessels formerly engaged in trade through the old system and re-assembly with an additional section amidships. A number of ships are undergoing this treatment (see page 8).

Ontario shipyards at Port Weller, Collingwood and other centres have been doing a booming business as a result. Three "ultimate" size bulk carriers 730 feet long and 75 feet in the beam—the maximum size allowed by the Seaway—are now sailing the lakes. They are part of about \$50 million in ships being built or planned.

The big ships can carry 850,000 bushels of wheat—enough for

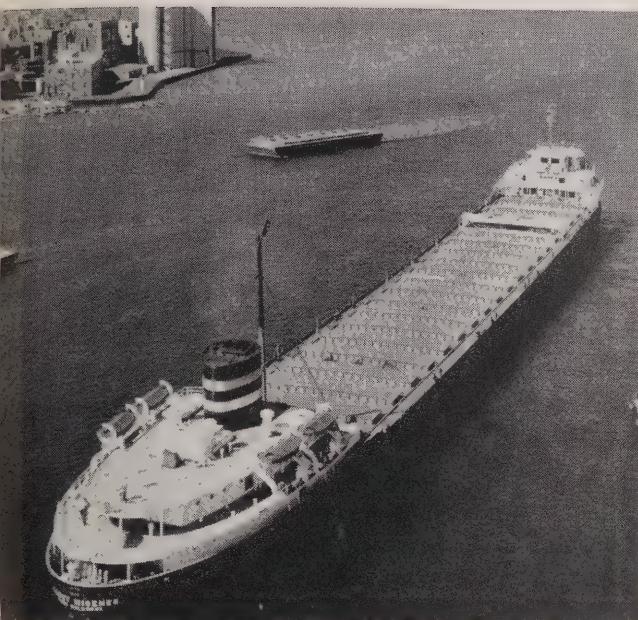
about 40,000,000 loaves of bread.

#### "Fishyback" Business

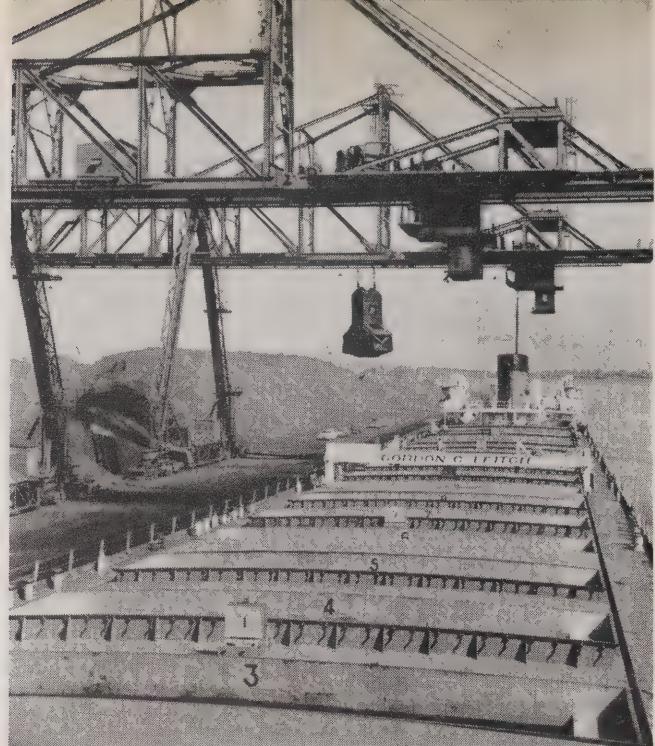
"Fishyback," the carrying of loaded transport trailers on ships, has also been introduced.

Icebreakers and air bubbles have been suggested to keep the Seaway channels open to ship traffic during the winter, but some engineers say the cost would be prohibitive. The Swedish use warm air bubbles to keep their canals open. To date, this method has been used in Canada only at ferry slips, water intakes, docks, as well as certain small power installations.

Maintaining their traditions of rivalry, Hamilton and Toronto found themselves among the top six Great Lakes harbors in terms of Seaway traffic last year. According to figures released by the St. Lawrence Seaway Authority earlier this year, Hamilton headed the list. Actual Seaway traffic for this Lake Ontario port was 6,676,000 tons. Montreal, with 5,581,000 tons; Seven Islands, Que. (4,857,000); Ashtabula, Ohio (3,877,000), and Toronto (3,240,000) followed in



GREAT LAKES bulk carrier passes through the International Section of the Seaway near the Village of Cardinal, Ont.



ANOTHER bulk carrier, the Gordon C. Leitch, unloads a cargo of iron ore at the Hamilton Dock of Dominion Foundry and Steel, Ltd.

that order, while Fort William headed off Chicago by over 500,000 tons.

The Port of Toronto handled more direct overseas general cargo than any Great Lakes port, soaring to 713,000 tons from 287,000 in 1958. Toronto officials are hopeful that present plans to invest \$70-\$80 million in inner and outer harbor development will help it to realize its ambition of becoming the leading "deep sea" port on the Great Lakes.

Total tonnage handled in 1959 was 4,740,000 — up 253,000 from 1958. Tonnages this year have been exceeding those of 1959. Raw sugar came directly to the new waterfront refinery of Canada and Dominion Sugar Co. Ltd., and soybean meal was shipped out direct by water, instead of by rail to Montreal for loading on ocean ships.

This year, for the first time, the port was hoping to export grain. If the grain trade develops, some ocean ships would turn around in Toronto and not proceed up the lakes for grain. Increased ship-

ments of scrap metal to the U.K. and Japan, soybean meal to the U.K. and Ireland, and other bulk cargoes are expected.

"If present conditions continue," predicts Toronto Harbour Commission's General Manager, E. B. Griffith, "It is not unreasonable to estimate that Toronto will pass the one million ton mark in overseas tonnage."

Officials were confident, too, that new business would originate on a steady basis from industrial centres within a 100-mile radius of the port.

#### Hamilton Expands Harbor

Hamilton, Canada's leading Great Lakes port in terms of tonnage, handled some 7,802,000 tons of Seaway and local cargo in 1959, consisting mainly of ore, coal, fuel oil and general cargo. Of this, some 260,000 tons was direct overseas cargo, a six-fold increase from the previous year.

Bulk of the landlocked harbor's tonnage is raw materials for its two big steel plants.

A \$40 million improvement pro-

gram is underway, and harbor commissioners anticipate that 11 additional berths will have been added by 1962 in order to accommodate the increased shipping. A new wharf and terminal, plus dredging and land reclamation projects, are scheduled for completion in 1961.

"Importers and exporters here and throughout southwestern Ontario" showed "considerable interest in rerouting overseas shipments through the Port of Hamilton," says General Manager Clifford Morgan.

He also pointed out that, if the harbor got much more crowded this year, ships would have to anchor out in the bay until there was room for them.

The Lakehead grain terminal ports of Fort William - Port Arthur did not benefit from the opening due to the poor showing of Canada's grain exports, down some three million bushels from 1958, and competition from the U.S. port of Duluth.

Combined, the twin ports handled 4,130,000 tons of cargo, and

(Continued on page 8)

ships and crews spent more than \$500,000 for lumber, supplies and services. This year, they feared that most foreign ships would be plying direct to Duluth to unload their package cargo at its \$10 million marine terminal and then load "give-away" grain for the return trip.

To meet the challenge, construction of a new \$7 million marine terminal and other harbor improvements to be completed in 1962 has begun. The terminal will feature three berths, two for lake freighters, and a transit shed area.

Hoping to cut themselves in on a bigger slice of the trading melon are the river ports of Windsor and Sarnia.

Thousands of ships sail the Detroit River and crowd the Motor City's docks, but few of the "salties" come to call at Windsor's limited facilities.

The port has 12 private docks handling such bulk cargo as coal, stone and petroleum products. Hiram Walker exports its product by ship. European interests are reported to be ready to spend \$6-\$7 million on port facilities if cargo scheduled for Detroit can be obtained. The Harbor Commission has land and 1,000 feet of river frontage.

At Sarnia, tonnage was down last year mainly due to a strike at Polymer Corp., the crown company, which manufactures synthetic rubber and is the principal user of overseas shipping. Plans have been approved for a multi-million dollar harbor expansion program.

Two centres close to Toronto would like to get in on the ocean trade.

The Town of Port Credit has an idle million dollar harbor and an 850-foot dock which is used mainly by the seagulls as a resting place. Town Council wants the 12-acre harbor depth increased to 27 feet to attract seaway traffic. At present it is 21 feet and its entrance blocked by a ridge of

(Continued on page 23)



## ALIAS, S.S. "RED WING"

WITH James S. Duncan, chairman of Ontario Hydro, as the principal speaker, the S.S. "Red Wing," a 730-foot bulk carrier constructed for Upper Lakes Shipping Ltd., was christened and commissioned at Port Weller Dry Docks Limited on July 23 this year. The vessel (shown above) was christened by Mrs. Bruce Norris, of Chicago, at a ceremony attended by a gathering of federal and provincial government officials, along with civic representatives and representatives of the Canadian shipping and shipbuilding industries.

The christening and commissioning of the "Red Wing," named after the Detroit Red Wings hockey team, added the finishing

touch to what is probably the biggest ship conversion project ever undertaken in Canada.

The vessel, the former "Imperial Edmonton," entered the Port Weller dry dock a 523.5-foot tanker, and emerged a 730-foot upper laker with a deadweight capacity of 25,350 tons.

The overall size of the "Red Wing," with her hold capacity of 1,177,000 cubic feet, follows the present pattern of building ships up to the maximum allowed for operation on the St. Lawrence Seaway. The vessel is capable, for example, of carrying 925,000 bushels of wheat, a cargo which would require the harvest of 54,400 acres. ■

# HE WILL REMEMBER VIENNA

**K**AROL BOGDAN, cost accountant at the Thunder Bay Generating Station project in Northwestern Region, spent his 1960 summer vacation as a delegate to the Conference on Small and Medium Power Reactors held in Vienna during the week of September 5.

Karol says he was prompted to attend the conference, sponsored by the United Nations International Atomic Energy Agency, as a result of his own "do-it-yourself" studies of nuclear power economics. His status there was as an unofficial delegate, but with the full approval of the Department of External Affairs, Atomic Energy of Canada Limited and Ontario Hydro.

Of the conference he says:

"I was afraid I would find myself exclusively in company with pure scientists, but it turned out that those attending represented

(Continued on page 24)

RAPT attention to a technical discussion during the International Conference of Large Electric Systems in Paris, France, earlier this year, finds CIGRE delegates in almost prayerful attitudes as they concentrate on the simultaneous translations of a speaker's words into German, French and English by a battery of interpreters. This group includes two Ontario Hydro representatives (third and fourth from right): Neil McMurtrie, Transmission Department, and Andrew Elek, Research Division, who were among the 1,800 delegates from 50 countries. Mr. McMurtrie presented a paper, prepared in co-operation with J. G. Cassan, Research Division, on Hydro's extra-high-voltage studies near Coldwater, Ont. Another paper, prepared by Peter Ralston, Transmission Dept., and G. H. West, Research Division, on the cooling of high voltage cables, was also presented at this conference.



REPRESENTATIVES of Pakistan, France, United States, Canada and Russia were among the chief figures at the opening of the Vienna conference. Third from the left is Dr. G. C. Laurence, Atomic Energy of Canada Ltd. official.



AMONG the Canadian participants at the Small and Medium Power Reactor conference were (l. to r.): J. G. Melvin, Atomic Energy of Canada Ltd., S. Jones, Canadian Westinghouse Co. Ltd., and Mr. Bogdan, Ont. Hydro.

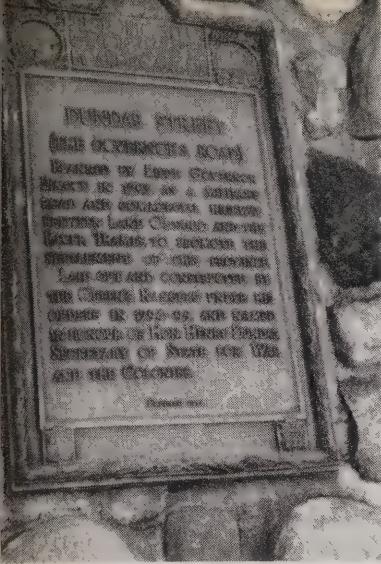


*Busy Dundas citizens are proud of their*

# OLD TOWN IN THE VALLEY

QUEEN ELIZABETH II described this view of the Dundas Valley as "one of the most beautiful in the British Commonwealth", during her tour of Canada last year.





PLAQUE and cairn on the outskirts of the town commemorate the important role of Dundas Street in the history of Ontario.



PICTURESQUE Webster's Falls, one of the scenic attractions in the Dundas area, was the site of a small generating plant which supplied the first electric power to the town 70 years ago.

by Rory O'Donal

FROM Indian battleground to one of the fastest-growing "prosperity towns" in Ontario—that, in a nutshell, is the story of Dundas in the past 350 years.

Of course, the community has many more claims to fame. Some citizens proudly recall that William Lyon Mackenzie, a fiery Canadian rebel, once made his home there. Other less politically-minded individuals reverently proclaim the fact that the late Sir William Osler, one of the world's great men of medicine, was born there in 1849. And then there are some townsfolk with a sense of humor, who will tell you, without a moment's hesitation, that Dun-

das merchants pioneered in the use of those "lucky" trading stamps.

The first recorded inhabitants of the beautiful Dundas Valley were the Neutrals, a tribe of fearless but peace-loving Indians, who carried their pacifism and neutrality too far. They allowed their warring neighbors, the Hurons and the Senecas, to use Neutral territory. In the first flush of their victory over the Hurons, the Senecas turned on the unprepared Neutrals and destroyed them. This massacre took place around 1660, but, within 15 years, the victorious Senecas had returned to their home

(Continued on page 12)



ANOTHER historic site at Dundas is the home of William Lyon Mackenzie, who led the rebellion against colonial authority in 1837.



near Rochester, N.Y., leaving the valley free for spasmodic infiltration by the nomadic Mississagis.

In 1787, a loyalist Quaker, Ralph Morden, was hanged for espionage in Pennsylvania, and his large family, under the leadership of his widow, Anne Morden, fled to safety in Canada. When they came to the Dundas Valley they decided to stay. With typical pioneer commonsense, they settled on the most fertile, sheltered spot

on the sunniest slope of the valley, and thereby became the first white citizens of the community.

The valley and the small cluster of one-room log cabins were eventually named in honor of Sir Henry Dundas, Britain's secretary of state for War and the Colonies, and, later, first lord of the Admiralty, who was a close friend of Upper Canada's first Lieutenant-Governor, Sir John Graves Simcoe.

### First Road

During the latter part of the 18th century, the Queen's Rangers, under Simcoe's direction, started construction of the first road ever built in what is now Ontario. It was part of the Lieutenant-Governor's military defense program to prevent capture or annexation by land-hungry Americans.

This road, which ran from Cootes Paradise to the River Thames, came close to the small community of Dundas, and so this pioneer artery was designated as Dundas Street. During the War of 1812-14, Simcoe's wisdom and foresight were confirmed, and Dundas St. proved itself at an early age. Officially this same road is now Ontario's Highway 99, but it is also known in the municipality by the complimentary title of Governor's Road.

Between 1800 and 1847, when it was incorporated as a town, Dundas was establishing the cornerstones of its present economy. At least three times during this period it held the honor of being the second most important spot in Upper Canada. Muddy York, now Toronto, was the "ruling queen."

In the 1820's, the first religious building, the Free Church, was opened. In the same year, William Lyon Mackenzie started his drug-store, but it is doubtful if the good citizens of that era foresaw that the little druggist would become Canada's "most wanted outlaw" in the next 15 years. Mackenzie's house still stands on Baldwin Street, and the cave in the rocks



THIS FUNCTIONAL but attractive building is the headquarters of Dundas P.U.C.

above the valley where he hid can still be seen.

While the fiery rebel was in hiding, the Desjardins Canal was opened, and Dundas became the chief exporting centre for the large surrounding area.

Originated by Peter Desjardins, the canal was designed to connect Dundas with what is now known as Burlington Bay and hence the Great Lakes. In 1857, however, a passenger train crashed through the swing bridge over the canal carrying many people to their deaths. A fixed bridge was erected over the canal after the disaster, preventing schooners from using the canal. This sounded the death knell for the dream of making Dundas an important lake port.

### Irish Immigrants

In the decade between the Rebellion of 1837 (led by Mackenzie) and 1847, the population of Dundas more than doubled, due largely to an influx of Irish immigrants fleeing Erin's potato famine. By 1860, Dundas had a population of 2,750, and now, a century later, this figure has increased 450 per cent to more than 12,000. A hundred years ago its area was little more than 100 acres; today its boundaries encompass a total of 3,442 acres, and Dundas boasts some of the most thriving industries in the Province.

Industry and commerce in Dundas is of a varied nature, and

includes John Bertram & Sons, who make machine tools and operate the largest machine planer in the Commonwealth. The oldest manufacturing company in the town proper is the textile firm of Grafton's, which was established 107 years ago, while Lennard's knitting mills run a close second. However, the honor of being the oldest industry in the valley goes to the Dundas Mills, who have been operating a grist and flour business since 1801, just 15 years after the first white settlers arrived in the valley. More and more homes and industries are being built in the valley, which Queen Elizabeth II said "must surely be one of the most beautiful valleys anywhere."

The advent of electricity in 1899 contributed greatly to the prosperity of Dundas, although it was two years before the company supplying the power, which was generated at nearby Webster's Falls, obtained its second customer. The first customer was the Town of Dundas, where electrical street lighting proved a great attraction.

In 1909, Sir Adam Beck told the people of Dundas that their town was to be the hub of the infant Ontario Hydro system. In 1910, Dundas Transformer Station was opened, and Berlin (now Kitchener) became the first Ontario municipality to inaugurate Hydro service. The following year, the

(Continued on page 14)

first Dundas Hydro Commission was formed. At the same time, Dundas passed the thousand dwelling mark.

#### Load Growth

The growth of the Dundas electrical load in the interim is a striking indication of the town's rapid development. In 1911 it was 56 kilowatts; today it is 7,597 kw, and the Dundas electrical system now

includes six miles of transmission line and 42 miles of distribution line. A half-century ago you could count the customers on your fingers. The utility's 1960 records show that there are 3,016 domestic, 350 commercial, and 85 industrial. At the present time, the Dundas Commission has six fully-equipped trucks on the road; its customer billing procedures have been studied by members of other elec-

trical systems from many sections of Ontario. And Manager John Wilson, who has been with the local commission for the past six years, says with conviction and understandable pride that it is one of the fastest growing utilities in the province. Elected for two-year terms of office, the present Dundas Commission includes: Chairman Dr. J. D. Fleming, Vice-Chairman M. T. Jaggard, Commissioners William Newitt, Kenneth Hinton, and Mayor Alex Warren.

Perhaps the best known of all past commissioners of the utility, and certainly one of the most popular, is D. P. "Bud" Cliff, present Dundas "Citizen of the Year." A Past President of the Ontario Municipal Electric Association and now its Secretary-Treasurer as well as an Ontario Hydro Commissioner, Mr. Cliff has held every civic post possible in Dundas besides the Wardenship of Wentworth County.

Dundas people speak with pride of their town's contribution and sacrifice in two world wars. Their pride is justifiable. Since the 13th Wentworth Regiment was formed many years ago, the men and women of Dundas have distinguished themselves in every period of national emergency. In World War I, the 129th Battalion covered itself with glory, and, in World War II, the 102nd Battery carried on the proud tradition. Dundas is, in fact, a town about which it might be truly said, "Cometh the hour, cometh the men."

Many changes have taken place since 1899, when Dundas storekeepers started using trading stamps; when Dundas citizens chuckled over "Bringing Up Father," the first comic strip in the *Dundas Star*, and the town opened its first Music Hall. But, one has only to visit "The Old Town in the Beautiful Valley" today, to realize that these changes have meant profit, pride and progress for Dundas.



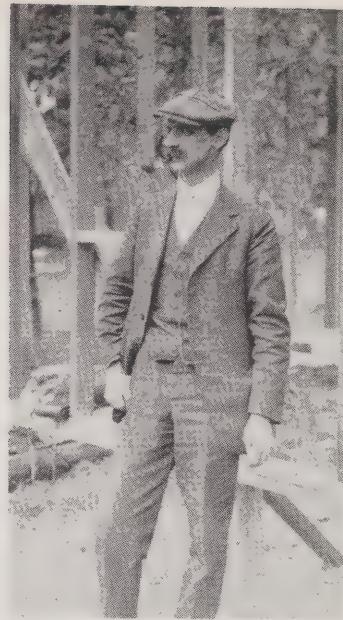
#### FIRST CITIZEN

EXPANSION of Hydro service in the vicinity of Dundas was manifested earlier this year when Ontario Hydro Commissioner D. P. Cliff, secretary-treasurer of the O.M.E.A. (second from right), officially opened the new office and service centre of the Commission's Dundas Area. Looking on were: C. A. West, Dundas Area manager; W. H. Edwards, manager of Hydro's West Central Region (left), and O. S. Russell, director of Hydro's Management Services Division (right).

First citizen of Dundas this year, Mr. Cliff is Vice-President of the Dominion Lightning Rod Company Ltd., which was established at Dundas in 1898 by his grandfather, George H. Cliff. Four generations of the Cliff family, including Mr. Cliff's son, have been associated with this firm.

# POWER PIONEER

by R. E. Jones, P.Eng.\*



S. B. HOOD

FIFTY years ago pedestrians in the vicinity of the Scott Street plant of Toronto Electric Light Company would pass a tall, thin man with a pipe in his mouth and a far-away look in his eye. Those who knew him claimed that his eyes were focused on the crossarms of a pole a couple of spans away. While Samuel Hood appeared not to see fellow walkers, he did not miss much on the poles of the system.

This was the year that saw the greatest advance in distribution practice since the invention of the transformer, the 4,000 volt common neutral system. Hood made the first practical installation in August, 1910, to supply power to the Canadian National Exhibition from Teraulay St. substation. From this small beginning, the practice of this connection has spread over the whole of Canada and United States.

Previous to this time, distribution transformers had been connected phase to phase on a delta system. Any wye system in use

at that time had a separate insulated primary neutral.

With this new voltage system, the capacity was tripled without the additional cost for higher voltage equipment. Also one primary conductor sufficed for single phase branches, a saving of considerable copper. Only one arrester and cut-out were used at each transformer. The appearance of many lines was greatly improved by the substitution of a top pin for the bulky crossarm. This system saved the utilities of North America many millions of dollars.

Samuel Bingham Hood was born in Philadelphia in 1875, and, after holding a number of positions in the electrical industry, he came to Toronto Electric Light Company in 1908 as Superintendent of Distribution.

Following the installation of the original common neutral feeder, secondary neutrals throughout the city were tied together, and grounded at a multiplicity of points. Then the whole system was converted to the new connection. A vast amount of conductor was salvaged from single phase

lines, and for years there was a surplus of cutouts and arresters. At the same time the secondaries were banked, with copper secondary fuses in the outer leads of each transformer.

About 1917 Mr. Hood moved to Minneapolis to change the distribution there to 4,000 volts common neutral. Since then, with the spread of this idea, a delta primary line is becoming comparatively rare. During the last 25 years this new connection has been extended to use with primaries of 8, 12 and 25 kv.

In 1913 Mr. Hood commenced connecting the ground leads of lightning arresters to the grounded common neutral, a practice to be followed widely many years later.

In Minneapolis, in 1920, he put into practice the use of the grounded neutral as the return circuit of long-series street lighting loops, saving space on the poles as well as conductor.

About the same time he originated a control system for multiple street lighting with relays operated by a control wire which was alive

(Continued on page 25)

\*Mr. Jones was Ontario Hydro's Distribution Engineer before his retirement in 1956.)

# TV WATCHDOGS

TELEVISION cameras keep a watchful eye on the new steam generating units at Ontario Hydro's Richard L. Hearn thermal plant on the Toronto waterfront.

Backing up the more conventional peep-holes and mirrors, closed-circuit TV is providing greater safety and efficiency in operations at Canada's largest thermal-electric generating station.

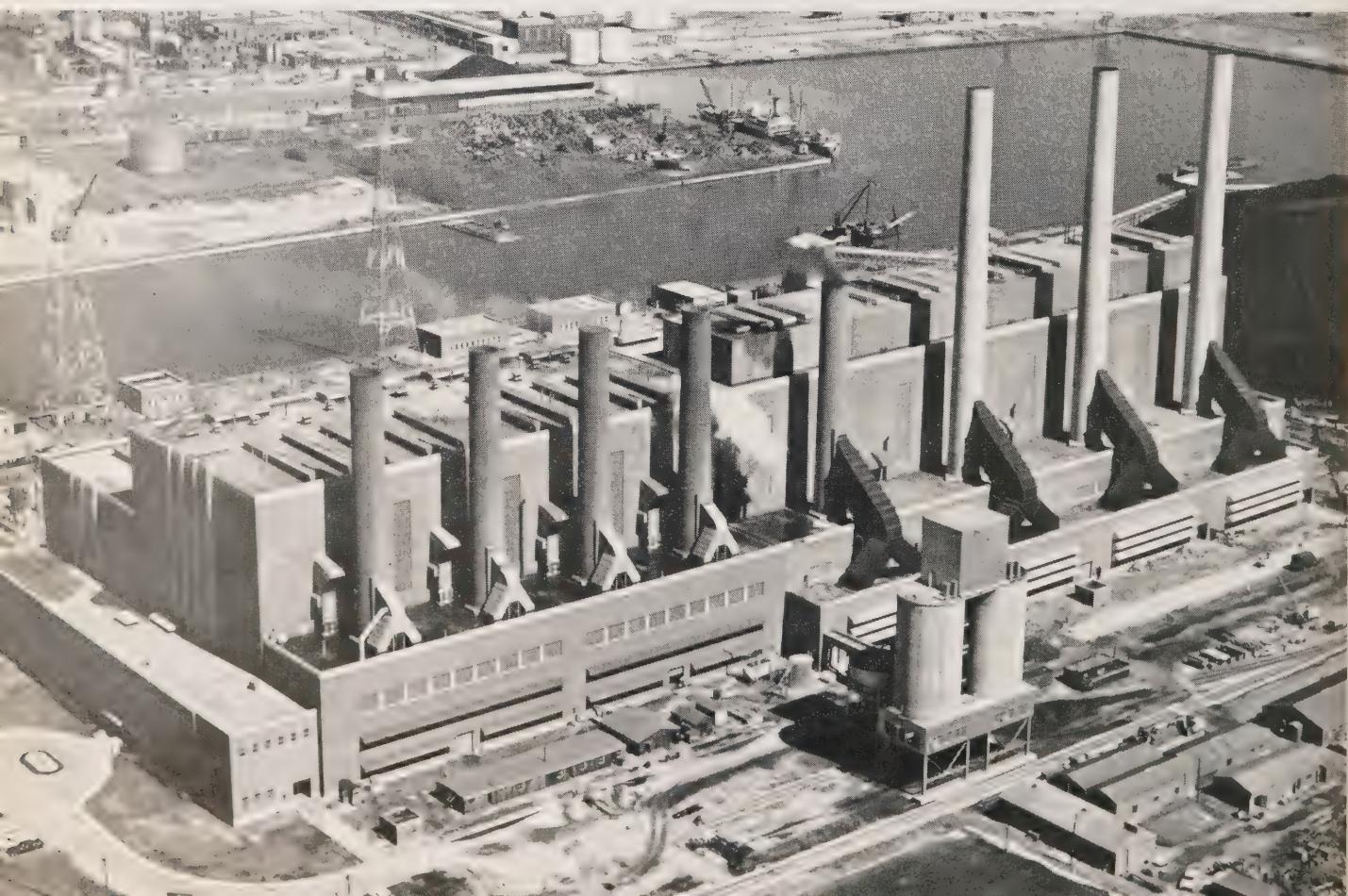
Two television cameras are mounted on each of the four steam generating units — capable of producing 1,350,000 pounds of steam an hour — which are part of a new extension to the station. One camera is placed on the front of the huge coal-fired furnaces, and provides continuous pictures of combustion conditions inside. The other is located at the top of the

steam generators, or boilers, about 175 feet above the floor, and watches gauges showing the water level in the boiler drums.

The pictures are transmitted to screens set in panels in the control rooms — one for each two units — between the turbo and steam generators.

Here, the operator can keep a constant check on what is happen-

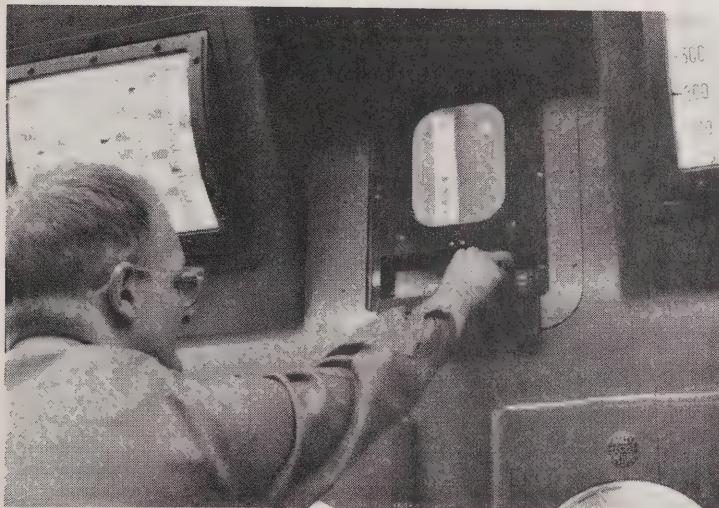
AERIAL VIEW of the Richard L. Hearn Generating Station on Toronto's waterfront. The three larger chimneys (right) are part of a four-unit addition to the plant, which will be completed early in 1961.





***Closed-circuit television cameras keeping an eye on the furnaces and boilers of the new generating units of Richard L. Hearn station***

THIS CAMERA is placed on the front of the huge coal-fired furnaces in the new section of the plant to provide a continuous picture of combustion conditions inside.



HERE an operator is making an adjustment to the control room screen which indicates the water level in the plant's new steam generators.

by Don Carmichael

ing and, by remote control, make the necessary changes to meet increasing and decreasing energy demands from the unit.

The four original steam generating units at Hearn — capable of producing 850,000 pounds of steam an hour — are operated from individual control panels in close proximity to each unit. The combination of peep-holes, or observation doors as they are called, and mirrors is used to provide operators with the information which is now supplied by TV on the new units.

Operators view the interior of the older furnaces through the peepholes in the sides. A series of mirrors, with bright illumination behind the boiler drum gauges, relays an image of the water levels down to the operators on the firing floor below.

On the new, larger units, the peep-holes and mirrors are used for cross-checking purposes.

The water level in any steam generator is important. Abnormally low water in the boiler may lead to overheating of certain parts of the tube structure. Overfilling

could carry heavy moisture into the steam supply and cause damage to the internal parts of the turbo generators.

The new units are capable of operating at a pressure of 1,800 pounds per square inch and a temperature of 1,000 degrees Fahrenheit.

**In Use Since March**

The closed circuit TV has been used for direct furnace viewing at Hearn since March of this year. Like the human eye, it can distinguish between dense smoke and variable powdered fuel conditions within the furnace.

The camera lenses are protected from the intense heat of the furnaces by air-cooled glass filters.

The coal, ground to the fineness of talcum powder in pulverizers, is discharged into the furnaces by jets of heated air and burns in suspension. When the powdered fuel enters the furnaces, it is ignited by flame from light-oil torches which can be automatically operated from control boards. As this occurs, the flame pattern appears on the screen and the stability of the ignition can be observed.

Hydro plans to use TV on the furnaces and the boiler gauges at its two new thermal stations—Lakeview, being built on the western edge of Metropolitan Toronto, and Thunder Bay, under construction at Fort William.

Niagara Falls  
still the best

AFTER 280



# YEARS



Still virtually untouched by man, the Niagara River outlet was picturesque spot in year 1837.



Tourists were already coming to see the mighty falls in 1837.



Popular activity in 1837 was a hike under towering Table Rock.

**I**N terms of popularity, Niagara Falls qualifies as probably the oldest and most famous tourist attraction on the North American continent.

Since that day in 1678 when the first white tourist, Father Louis Hennepin, arrived to view and admire this "vast and prodigious cadence of water," the crowds have grown constantly. And the opportunities for viewing the Falls from every angle have gradually become more numerous and more varied.

On this page are reproductions of a group of steel engravings from the scrapbook of F. K. Dalton, a member of Ontario Hydro's Supply Division staff until his retirement a few years ago. The steel engravings were made in England from drawings by W. H. Bartlett, and the scenes represent the period from 1835 to 1839.

The illustrations indicate not only how much things have changed in the Niagara District in the past century, but also offer convincing proof that Niagara did not become a tourist attraction overnight.

Terrapin tower, built in 1829, was a popular viewing spot. It was destroyed in 1872, after rumor suggested it was unsafe.

# THEY RAISE GOATS AT ROSEGATE

**F**IRST of all, let's knock one widely-held belief on the head and put it in the trash can where it belongs. Goats—or at least well-cared-for goats—do not smell.

Neither, apparently, do they eat tin cans, ladies' hats or paper bags.

In fact, the 75 pure-white Swiss Saanen goats, which occupy an important place in the affections of the Alexander family of Rosegate Farm near Norval, Ont., are as well-behaved a herd of animals as you'd ever want to meet.

To Mrs. Louisa Alexander, active mistress of Rosegate Farm, the herd represents a pleasant sideline to her main job of running the pleasant Rosegate Farm home. It means, also, an increasingly important source of income for the family.

A large quantity of the chalky-white, highly-alkaline milk is dispensed daily at the farm to regular customers who come from all over the greater Toronto area to buy.

Says Mrs. Alexander: "I've had

people from as far away as Texas come out here for milk. I suppose they've been visiting locally, and heard about the farm and the fact we keep goats."

What's the attraction?

Mrs. Alexander attributes some remarkable powers to goats' milk. Some of her customers say they buy it because cows' milk doesn't agree with them. Still others report that it gives them relief from such conditions as eczema, arthritis, ulcers, hay fever and various nervous conditions.

There appears to be no sound medical evidence why this should be so. But, at the same time, goats' milk is, undoubtedly, different from cows' milk, and Mrs. Alexander points out that one chemist told her there could be some undiscovered property in the milk, which might account for the effect it appears to have in some cases.

## Started in 1953

The Alexanders' experience with

by Gary Smith

SWISS SAANENS are pure white in color, and have the natural inquisitiveness of a small boy.



goats dates back to 1953, when Mr. Alexander and his two sons, Bill and Ernie, presented Mrs. Alexander with a milk goat. "I guess they'd just heard me say it would be nice to have a goat on the farm," she recalls.

Tall, spare Mac Alexander says he had no idea at the time what the outcome of this birthday gift would be. A man who knows dairy cattle like the back of his hand, Mr. Alexander owns one of the finest herds of Jersey cattle in Central Ontario.

He and his two teenage sons operate the 250-acre Rosegate Farm themselves. Besides the big Jersey herd, they market a large number of hogs each year.

Electricity gets good use on Rosegate Farm. One noteworthy item is the electrically-operated stable cleaner which does in 10 minutes, according to Mac Alexander, what once took two hours of back-breaking work.

The tidy Rosegate milkhouse

boasts two bulk coolers, one for cows' milk and one for goats' milk. In the Alexander home there's a deep freeze, electric range and refrigerator, in addition to numerous other electrical appliances.

A recent innovation is the 12-hp standby generator, which still hasn't been used, but which Mac Alexander points out is "there and available" in the rare event Rosegate Farm does experience a power outage.

Use of such modern electrical farm appliances means Mr. Alexander, Bill and Ernie have time to help Mrs. Alexander with her white Saanens. And that is a job which is constantly growing in terms of its economic importance to Rosegate Farm.

The well-bred Swiss Saanen is a handsome creature indeed. A full-grown female generally weighs 140 to 200 lbs., and is pure white in color. Horns are an hereditary feature, but the Alexanders make certain that no goat in their herd

will have horns by "treating" the kids shortly after birth.

A good dam will give an imposing quantity of milk. Mrs. Alexander says a goat will yield about 10 lbs. or a gallon of milk a day. Some do even better.

Her prize dam is Rosegate Jorina, an animal which, in the past year, took first prize at the Royal Winter Fair, and first prize and grand champion ribbon at the Canadian National Exhibition.

#### Many Prizes

The Alexander living room is replete with silverware, ribbons and other tokens of the quality and prowess of both their Jerseys and their Saanen goats.

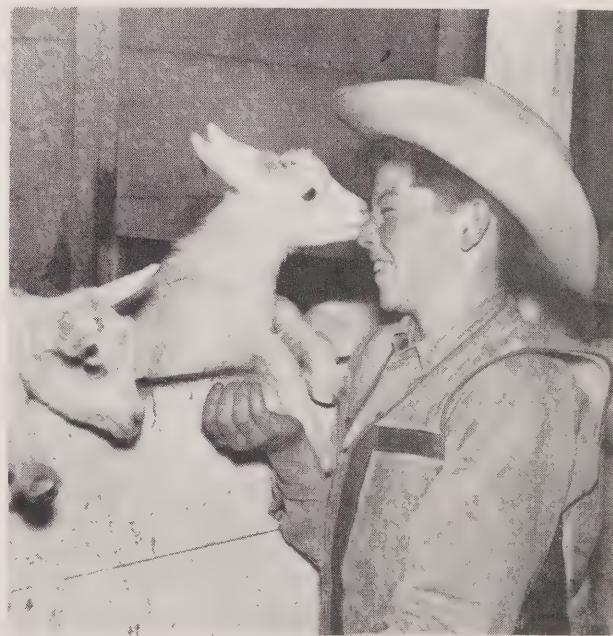
Rosegate Jorina, like other Swiss Saanens, is a mild-mannered creature with a mischievous expression and an overwhelming curiosity. During winter months, when she's penned inside with her sisters, her favorite pastime seems to be

(Continued on page 24)

#### NORVAL FARM'S LARGE HERD IS PAYING GOOD DIVIDENDS



ROSEGATE HERDS always do well at fairs and exhibitions. Mrs. Alexander displays the ribbons which prove the point.



YOUNG BILL ALEXANDER gets an affectionate bussing from one of the latest crop of "spring kids" at Rosegate Farm.

# ALONG HYDRO LINES



## Expansion noted in Southern Ontario

Increased demands for electric power have resulted in expansion for several Southern Ontario municipalities.

Among utilities which will increase facilities during 1960:

Richmond Hill Hydro-Electric Commission plans construction of a new service building at a cost of \$60,000;

Brantford Township Hydro-Electric Commission has a \$27,000 service building underway;

Waterloo Public Utilities Commission has received approval to spend \$10,750 on sites for a service building and substation;

Kitchener Public Utilities Commission plans to obtain three substation sites and renovate its existing buildings, at a total cost of \$77,000, and

North York Township Hydro-Electric Commission will spend \$100,000 on the purchase and improvement of land for a new location for its Western Operating Centre.

## FORM CANADIAN NUCLEAR ASSOCIATION

FORMATION of a nation-wide organization to stimulate Canadian development of nuclear energy for peaceful purposes was announced in Toronto recently.

Under the name of the Canadian Nuclear Association, it will operate as a central agency for government bodies, industry, utilities, educational institutions and other authoritative groups interested in nuclear development.

"The inauguration of the Canadian Nuclear Association may well be an important milestone on Canada's road to future development and prosperity," Ontario Energy Resources Minister Robert W. Macaulay, second vice-chairman of Ontario Hydro, said in making the announcement.

Mr. Macaulay, a vice-president of the association, was deputizing for founding president Ian F. McRae, chairman of the board of the Canadian General Electric Company, who was on a business trip to Europe.

After outlining the benefits already offered through nuclear energy, Mr. Macaulay said such an organization was needed "because there is constant advancement in this field, and it is even now difficult to keep abreast of developments that are being made in countries around the world."

He said that demands for increased electrical power alone could make the nuclear industry big business in the coming years. Canada's huge resources of uranium, representing an investment of more than \$400,000,000, are sufficient to supply domestic requirements for generations as well as being an export product to other countries engaged in nuclear development.

Other members of the board of directors are: B. A. Avery, vice-president and general manager, Orenda Engines Limited; S. M. Blair, president, Canadian Bechtel Limited; W. M. Gilchrist, presi-



IAN F. McRAE

dent, Eldorado Mining & Refining Limited; A. E. Grauer, chairman and president, British Columbia Electric Company Limited; Hon. Donald Harper, chairman, New Brunswick Electric Power Commission; W. R. McLachlan, vice-president, Canadian Westinghouse Company Limited; S. B. Roman, president, Denison Mines Limited; G. I. Staber, general manager, AMF Atomics (Canada) Limited; D. M. Stephens, chairman and general manager, the Manitoba Hydro Electric Board; Hon. Robert Winters, president, The Rio Tinto Mining Company of Canada Limited, and Dr. J. W. T. Spinks, president, University of Saskatchewan.

## Former Toronto Hydro superintendent

Oliver Joseph West, retired superintendent with Toronto Hydro and one-time coach of its hockey team in the Mercantile League, died recently in Toronto.

Born in Muskoka, Mr. West arrived in Toronto in 1911, and worked there until his retirement in 1953.

He is survived by his wife and a son.

## SEASON FOR THE SEAWAY

(Continued from page 8)

shale 17 feet below the surface.

Kingston, prior to the Seaway opening, handled considerable package freight, coal, oil and grain. It is the western terminal for Montreal pilots, and a ship-repair centre for 14-foot draft canallers.

Now the package freight has disappeared, but almost half the upbound Maritime coal shipments last year came into Kingston, and almost doubled the tonnage unloaded there the previous year. Grain transhipments were also up, and it was the only Canadian port other than the Lakehead to tap the potential of shipping grain directly overseas.

Prescott had been the eastern terminal for lakers prior to 1959, and numerous ships spent the winter there. Traffic in 1959 was reduced, mainly owing to the fact that lakers were able to proceed downstream to Montreal, Three Rivers or Quebec City without stopping to transfer their cargoes to canallers.

However, it confidently expects to be officially designated as the "Intermediary Port" and Seaway outlet for Eastern Ontario. A transit shed for general cargo is being built, and docks are being readied to accommodate ocean vessels.

### New Industries

New industrial development as a result of the Seaway is regarded as inevitable by economists. In the Toronto - Hamilton area there are two new scrap metal concerns, and many of the old established firms are building new plants. Two new factories have been built near Morrisburg on the St. Lawrence, and a \$17 million ammonia plant will be operating at Prescott early in 1961. "Industry won't sprout overnight," they say. "The bigger the industry the longer they take to make up their minds."



(Bowmanville Canadian Statesman Photo)

### VICE-CHAIRMAN HAS A SIDELINE

THOSE who may have wondered what Ontario Hydro's First Vice-Chairman W. Ross Strike does in his spare time will be interested in this photo. It shows Mr. Strike at his part-time job of washing cars in Bowmanville. Actually, things aren't as bad as they seem. Mr. Strike is a member of Bowmanville Rotary Club and took his turn scrubbing over 250 vehicles during the club's annual Rotary Car Wash day last month.

Regarding the Seaway itself, St. Lawrence Seaway Authority President R. J. Rankin says a valid assessment of the massive operation won't be possible until the old Sault locks and the St. Mary's River are rebuilt and dredged to the standard depth of 27 feet, along with the Detroit and St. Clair Rivers.

This will allow the passage of larger vessels "loaded to nearer their capacity." The dredging projects are being carried out by the U.S. Army Corps of Engineers.

In 1959, some of the cargo liners offered limited passenger accommodations from Great Lakes ports through the Seaway overseas. The Fjell-Oranje line constructed and put in service the Great Lakes liner *Prinses Irene*, which has accommodation for 115 passengers in addition to cargo space. Seaway passengers totalled 3,800 in 1959.

Canada Steamship Lines and several other lines ran special cruises.

Together, the Seaway and the power projects of Ontario Hydro and New York State proved great tourist attractions in 1959.

For the first time this year, pleasure craft of all types have been using the Seaway facilities. Transit is free through the Lachine, Cornwall and Canada's Sault St. Marie Canals, but at all other points operators must pay a toll of \$2.00 per lock. And what's more, smaller craft must conform with all the provisions of the new St. Lawrence Seaway Masters' Handbook. There's no sneaking into a lock along with their bigger brothers — transit of pleasure craft is scheduled so as to avoid interference with other shipping, and may be delayed until a lockmaster considers that the craft may pass through safely.

## THEY RAISE GOATS AT ROSEGATE

(Continued from page 21)

the occasional butting contest she'll hold with a friend.

Two animals will eye each other quietly. Then, as if at a signal, both will spring up daintily and bash heads in what appears to be some sort of affectionate dumb show.

"It makes your head ache to watch 'em," comments freckle-faced, 14-year-old Bill.

Bill, who appears to be a sort of second-in-command to his mother, so far as the Rosegate goats are concerned, is currently training two wethers to pull a cart. The result this summer was as handsome a pair of "steeds" as were ever hitched to a chariot.

### Among Largest In Canada

Records show that there are some 2,000 registered Saanen stock in Canada. Mrs. Alexander feels her Rosegate Saanen herd ranks among the largest.

And it's likely to get larger before it gets smaller.

Demand for goats' milk is growing, and the Alexanders—already owners of a fine herd—plan on being ready to help take care of this thriving new Canadian market for a commodity as old as the Bible.

## HE WILL REMEMBER VIENNA

(Continued from page 9)

atomic agencies, public and private utilities, corporations, universities and governments. The group included not only scientists, but educators, economists, businessmen, engineers, administrators and accountants.

"Most of the papers presented dealt with the economics of nuclear development, exploring the commercial and competitive importance of various types of plants. The conference was really an in-

formal exchange of views and no voting or resolutions resulted.

"As a Canadian, it was a matter of pride to me to listen to papers read by Dr. G. C. Laurence and J. G. Melvin of Atomic Energy of Canada Limited. Both gentlemen discussed nuclear development from the Canadian standpoint, and presented a very logical and convincing case for our natural uranium, heavy water-moderated and cooled reactors.

"I began to realize, from discussions held following their papers, that Ontario Hydro, in co-operation with A.E.C.L., has attained international importance in nuclear power circles—a point of great pride to me as Ontario Hydro's only representative.

"Papers varied widely as to subject. One highlight was a presentation on the United States nuclear power program, and concerning the development of nuclear energy at remote sites in the far north and in the Antarctic.

"Another paper, presented by Belgium, dealt with that country's plans for a system of nuclear power stations in the Congo. How strange it was to see a map that pinpointed, not areas of political unrest, but rather the geographic distribution of nuclear power stations."

### Toronto Township names new manager

B. D. Fleming has been appointed manager of Toronto Township Hydro to succeed R. H. Starr, who retired recently.

During his five years with this commission, Mr. Fleming has served as assistant engineer and as chief engineer. Earlier this year he was named assistant manager and chief engineer under Mr. Starr. He has also been associated with Ontario Hydro, and, in 1950, joined the Fort William Hydro staff, where he remained until he transferred to Toronto Township.

A graduate of the University of Toronto in electrical engineering,



B. D. FLEMING

Mr. Fleming served with the Second Field Regiment of the First Canadian Division in Italy during World War II.

He is a member of the Association of Professional Engineers of Ontario and the Association of Municipal Electrical Utilities, and has presented a number of technical papers to various utility groups on such matters as triplex service conductors, residential underground power distribution and electric home heating.

### Hamilton Hydro plans three-storey addition

A 100 per cent increase in electrical demands during the past decade has resulted in the decision to double the present head office facilities of Hamilton Hydro-Electric Commission. Chairman C. R. Drynan has announced approval of a proposal to add three storeys to the Hamilton utility's main building in the downtown section of the city. The additional space will accommodate expanded administration services and permit the transfer of control equipment from a local substation.

Present plans call for the eventual control of all high tension lines and associated substations from this central point. Architectural plans and construction will be carried out by local firms.

## Perth appoints new manager

Perth P.U.C. has announced the appointment of J. D. Gardiner, a local electrical appliance dealer, to the position of utility manager. He succeeds the late W. C. McLaren.



J. D. GARDINER

Born and educated in Prince Edward Island, Mr. Gardiner was associated with the Department of National Defence, Ottawa, and in other capacities before coming to Perth.

During the 12 years he operated an electrical appliance business in Perth, Mr. Gardiner has served on the Perth Board of Education, and as Chairman of the Perth Public School Board. He is a director of the Perth Chamber of Commerce, of the Perth Rotary Club, and a former president of the Canadian Club.

## POWER PIONEER

(Continued from page 15)

in the daytime. This system resulted in failures of control circuit, allowing the lights to be on in the daytime instead of on at night.

In 1923 he had in operation one of the earliest A.C. networks for the downtown area.

Mr. Hood continually emphasized the necessity of having a thoroughly grounded neutral, at a time when this was a radical idea, if good service was to be given to the customer and, at the same time, facilitate safe service.

The writer was associated with S. B. Hood in Toronto and, later, in Minneapolis, and will always appreciate the mind of this man who always seemed to have a simple solution for the many problems in distribution. He was truly a pioneer in the electrical industry.

Mr. Hood died in retirement in California in 1946. ■



## MR. HYDRO RETIRES

SOME 350 colleagues gathered in Toronto's King Edward - Sheraton Hotel recently to honor Hydro's Dr. Otto Holden as he laid down the mantle of Chief Engineer after a distinguished Commission career covering a span of 47 years (Ontario Hydro News - July-August, 1960). Speaker after speaker, representing every section of Ontario as well as the Power Authority of the State of New York, eulogized the man who had participated in the construction of virtually every hydroelectric project undertaken by Ontario Hydro from the tiny initial plant at Wasdell Falls on the Severn River to the impressive St. Lawrence Power Project. Official tributes were offered by Ontario Hydro Chairman James S. Duncan, by Hon. R. W. Macaulay on behalf of the Ontario Government, and by Col. W. S. Chapin, general manager of the Power Authority of New York State, the Commission's partner in the St. Lawrence Power Project. Climaxing the event, a former Hydro colleague and professor, James J. Traill, presented the guest of honor with a highly-prized camera and accessories, while Gordon Mitchell,

former director of the St. Lawrence Project, on behalf of the staff, presented Dr. Holden with an antique coffee-grinder. Judging by Dr. Holden's expression in the accompanying photo, it was a gift he had long-coveted. ■

## Sandwich West Hydro announces rate cut

Manager David H. Pope recently announced the fourth rate reduction for Township of Sandwich West Hydro System customers since the utility was formed in 1956. The new residential rates, which came into effect on July 1 this year, with the previous rates in brackets, are as follows: First 50 kilowatt-hours per month, 4 cents (4.2c.); next 200 kw-hrs 2c. (2.1c.); next 500 kw-hrs 1.1c. (1.2c.); balance of consumption, 1.6c. (1.6c.). Commercial rates in the first consumption block have been reduced from 3.5c. per kw-hr to 3.3c., while power rates were cut from 3c. to 2.8c. The drop in rates was made possible by an 85 per cent increase in electrical consumption in the past four years. The population of the township has increased only 54 per cent in this period, Mr. Pope states.



## RURAL STREAMLINING

ONTARIO Hydro's rural areas cannot remain static—they have to move with the times. W. Ross Strike, Ontario Hydro's first vice-chairman, told guests during his address at the official opening of the Commission's new Essex Area Office on September 27.

"The Province is growing by leaps and bounds—and, in the process, annexation by urban communities is taking away many densely-populated sections from our rural areas.

"Carving chunks out of these areas puts their boundaries completely out of focus. Our areas form into all sorts of grotesque shapes."

That was the reason the new Essex Area was set up, Mr. Strike continued.

"By concentrating our efforts," Mr. Strike said, "we can provide

better service to our customers."

The new Essex Area comprises the former Essex, Harrow and Kingsville Areas, as well as a portion of the former Windsor Area remaining after separate utilities had been established for the Townships of Sandwich East and Sandwich West.

Hydro's new office (shown above) is at the hub of a 500-square-mile area—85 per cent of its customers being within a 15-mile radius.

As well as being the most southerly, the new area office is also the largest of its type in the province. H. A. Blomme, area manager, and his staff of 116 are responsible for electrical service to 15,000 rural customers and the maintenance of power facilities serving Windsor and 13 other municipalities in Essex County.

Mr. Strike pointed out that

## Inaugurate new street lighting

St. Catharines has been "lit up" as never before since the city's "new look" lights were turned on.

Strung along a half mile of St. Paul Street, the new 80 mercury vapor lamps have increased the amount of light by as much as 40 times, and created one of the brightest spots in the Niagara Peninsula.

J. H. Raham, chairman of the Downtown Committee of St. Catharines, thumbed the starter button on a specially-erected platform.

Brief remarks were made by Mayor Wilfred R. Bald; Douglas Hunter, chairman of the Public Utilities Commission; Ross Sawle, first vice-president of the St. Catharines and District Chamber of Commerce, and Ontario Labor Minister Charles Daley.

Speakers lauded the progressive spirit behind the installation of the lights. They expected the brighter shopping area to help substantially in the development of the downtown district.

amalgamation of the four areas had saved Ontario Hydro \$80,000 a year in overhead costs.

"We are constantly striving to keep our customers' costs to the minimum," he said. "It's only as a last resort that we raise rates."

Attending the ceremony were Canadian and Ontario Government representatives, as well as Essex County civic officials. Ontario Hydro representatives included J. M. Hambley, general manager, and R. M. Laurie, manager, Western Region, who acted as master of ceremonies.

Departing from tradition, Mr. Strike, as shown in the accompanying photograph, used a pair of cable cutters to sever the wire across the main entrance. J. E. Teckoe, Jr. general manager, Windsor Utilities Commission; Essex Area Manager H. A. Blomme (left) and Mr. Laurie, the master of ceremonies (right), witnessed the official inauguration.





STRATFORD'S old mill stone has returned to its original home on the banks of the Avon, where it marks the site of the city's first mill. PUC Commissioner Robert Mountain had the stone rescued from the river, where it was thrown by Hallowe'en pranksters two years ago. Jane Gingras and Charmaine Wasman are shown examining the relic.

#### Donate appliances to new Collegiate

Students in the home economics department of Cobourg's new Collegiate East are being trained with major electrical appliances supplied by Cobourg P.U.C. and Ontario Hydro, as part of a province-wide plan. The new equipment consists of two stoves, a refrigerator, an automatic washer and a dryer.

#### Plan increase in Peterborough Commission

Peterborough City Council has approved a motion to ask for special legislation increasing the membership of Peterborough Utilities Commission from three to five members, including one more elected member and the mayor. The Commission was set up by private bill, rather than under the Public Utilities Act.

#### Nearly top China

The six million citizens of Ontario last year consumed almost as much electric energy as the 670 million people of mainland China.

NEW X-ray equipment is operated from this lead-lined control room.

## ANIMAL X-RAY



RECENT acquisition of one of the most powerful X-ray machines in the world is destined to have a big role in the development of new and advanced techniques in animal treatment at the Ontario Veterinary College, Guelph.

With a capacity of 200 kilovolts, 1,000 milliamperes, the new unit was made specially to the specifications of OVC officials at a cost of approximately \$60,000.

Its rays are powerful enough to penetrate the abdominal and thoracic cavities of cattle and horses. Veterinarians say it will also be possible now to thoroughly examine the respiratory systems and spines of large animals, formerly believed to be impracticable.

While the potentialities of the new unit are not completely known at present, Dr. Allan J. Cawley,

head of the college's radiology section, anticipate that it will facilitate other work never previously attempted.

To protect the operator and people working in the area from the hazard of radiation, the equipment has been installed in a room with lead-lined walls. Since the unit was installed, special stocks have been designed at the OVC, which will enable the animals to be kept in position while X-ray photographs are being taken.

The Ontario Veterinary College is famous throughout Canada for its treatment of animals. One valuable bull brought all the way from Winnipeg in June has been convalescing there following an operation performed by Dr. F. J. Milne, head of the division of surgery and obstetrics, and his colleague, Dr. F. D. Horney. ■

X-RAY UNIT is designed to permit examination of animals from any angle. The equipment is mobile, and its various components can be moved as necessary to X-ray animals of various sizes.





# LET'S CHAT

with Lois Hurst of Ontario Hydro Homemakers' Service



**S**HELL out, shell out!" or "Trick or treat" and a group of little ghosts and hobgoblins cluster at your doorstep with shopping bags outstretched. Hallowe'en has come to mean a jolly foray for youngsters dressed in weird costumes seeking candy and peanuts as loot!

Youngsters love to gather for a party after going around the neigh-



bourhood for the "shell out". They are invited to come wearing their costumes. Of course, grinning Jack o'Lanterns will greet them, peering from the windows.

Witches and black cats, owls and bats, ghosts and skeletons, are favorite designs for decorations. Use orange and black paper tablecloths and napkins.

A witch's cave, with dimmed lights, sets the right atmosphere for ghost stories. Weird sound effects are produced with the aid

of someone hidden outside the room. Rattling a sheet of tin makes a noise like thunder. For a voice from another world, speak into a tin pail. Drawing a wet cork with a hole in one end slowly over a window-pane will result in a ghostly shriek.

Spine-tingling tales should be followed by jolly activities such as bobbing for apples or pinning the tail on the black cat. Of course, there must be prizes for the best costumes.

Refreshments can be quite simple.

Teeny Wienies (half wieners in Parker House rolls)	
Popcorn	Candy apples
	Hallowe'en Cup Cakes
Iced Cider	Milk

To make Hallowe'en Cup Cakes, bake your favorite chocolate cake as cup cakes. Ice each cup cake with a golden orange frosting. Decorate by pressing paper cut-outs of Hallowe'en cats and pumpkins into the frosting. Remove the paper and fill in the design, using a brush and a mixture of one square of unsweetened chocolate, melted with one teaspoon of butter.

It is so simple to clean up after this party, or any party for that matter, with an automatic dishwasher in your kitchen. You simply scrape the dishes, load the machine, add detergent, set a dial, as you see in the accompanying picture—and then walk away. It cuts in half the time you used to spend tidying up after meals. The

dishes are cleaner and more sanitary too.

It is surprising how safe it is for fine dishes and crystal. Any china with an under-glaze pattern can be washed in a dishwasher. So can silver—plate or sterling—and so can delicate crystal or utilitarian glassware. Melamine plastic ware is not damaged by hot water, detergent or high drying temperatures.

However, there are some things it is wise not to put in a dishwasher. Colors may fade from antique or hand-painted china or dishes with a pattern over the glaze, including gold rims. Inexpensive plastic plates and utensils may become misshapen. Colored anodized aluminum may fade or become dull. Wooden bowls or wooden handles may dry out and crack.

Many of today's washers have a special rinse dispenser which puts a small amount of a wetting agent in the final rinse water. This makes the water fall off the plates faster for spotfree drying.

Portable machines are ideal for those renting homes or apartments. No special plumbing, electrical connections, or carpentry are needed. Furthermore, if you modernize your kitchen, a portable can be permanently installed.

Just as the girls at our Gold Medallion Home at the Canadian National Exhibition said, "The family used to argue over who had to wash the dishes, now, with an automatic dishwasher, they squabble over who can DIAL the dishes clean!" ■

November, 1960

ONTARIO HYDRO

# NEWS



*Thermal Giant*



# ONTARIO HYDRO NEWS

## THE COMMISSION

JAMES S. DUNCAN, C.M.G., LL.D.  
Chairman

W. ROSS STRIKE, Q.C.  
First Vice-Chairman

HON. ROBERT W. MACAULAY, Q.C., M.P.P.  
Second Vice-Chairman

LT.-COL. A. A. KENNEDY, D.S.O., E.D.  
Commissioner

D. P. CLIFF  
Commissioner

J. M. HAMBLEY, B.Sc.  
General Manager

ERNEST B. EASSON, B.Com.  
Secretary

.

## EDITORIAL BOARD

JAMES S. DUNCAN, C.M.G., LL.D.

DR. V. S. WILSON  
President, O.M.E.A.

HARRY HYDE, P.Eng.  
President, A.M.E.U.

J. M. HAMBLEY, B.Sc.

ERNEST B. EASSON, B.Com.

JAMES A. BLAY

BOYD L. GRAHAM

.

Editor - BOYD L. GRAHAM

.

SUBSCRIPTION: \$5.00 PER YEAR

### Published by

the Information Division of  
The Hydro-Electric Power Commission of Ontario  
620 University Avenue, Toronto.

Authorized as second class mail, Post Office  
Department, Ottawa

Material published in Ontario Hydro News may  
be reprinted without permission.  
Most photographs are obtainable on request.



NOVEMBER, 1960

VOL. 47, NO. 11

## CONTENTS

PAGE

Red Rock "on the line" .....	2
Another Mississagi River plant in service	
Binge or Bonanza .....	4
The romance of Canada's Grey Cup	
A Hundred Thousand Welcomes .....	8
Parkhill marks its 100th birthday	
Subway Saga .....	12
There's an underground movement in Toronto	
Know What You Should About Lighting? .....	16
Pointed questions about home illumination	
Office In-the-Round .....	18
Stratford P.U.C. headquarters departs from the traditional design	
Stratford Invests in Quality .....	20
Report of official opening ceremony at Ontario's Festival city	
Cold Weather Hints .....	21
From Ontario Hydro Homemakers' Service	
Along Hydro Lines .....	22
Capsule review of utility activities	
Off-the-Wires .....	25
Editor's comments	

## COVER PHOTOGRAPH

THAT formidable, 25-ton object on the front cover this month is not a fugitive from the world of fantasy. Actually it's very real and is destined to play an important role when the first 300,000-kilowatt generator comes into service in 1961 at Ontario Hydro's Lakeview Generating Station west of Toronto. Known as a superheater outlet header, it will form a vital link between the boiler and the turbine generator. Through the spaghetti tubing, which is made of special heat-resistant alloy steel, will pass steam at a pressure of 2,450 pounds to the square inch, and at a temperature of 1,000 degrees F.

## A Gratifying Report

THE conclusions of the Royal Commission investigating the Sarnia land transactions have reaffirmed the trust which the people of this Province place in Ontario Hydro, Chairman James S. Duncan said on November 10 after the findings had been made public.

Commenting on the report of the Royal Commission which investigated Hydro's land purchase from Dimensional Investments Limited in 1959, Mr. Duncan said the Hydro Commission "is most gratified with Mr. Justice McGillivray's report, which speaks for itself."

"I am sure this report will reaffirm the confidence of the citizens of Ontario in an organization which exists solely for their service," Mr. Duncan stated.

In summary, the report of the Royal Commission stated:

- Charges of impropriety, negligence or careless judgment by Ontario Hydro or its officials were not substantiated.
- The price paid for the land by Hydro was justified.
- Hydro did everything possible to negotiate with the Indian Band.
- Hydro did everything it could be reasonably expected to do to expropriate the land after negotiations with the Indians collapsed.

Concluded Mr. Duncan: "In our view, the Royal Commission report has completely justified the course of action followed by Hydro. It

has vindicated our position that the purchase was the most economic available as far as the interests of the power users of Ontario were concerned, and enabled us to deliver urgently-needed electricity to the Sarnia area on schedule." ■

### COMMISSIONER'S SUMMARY

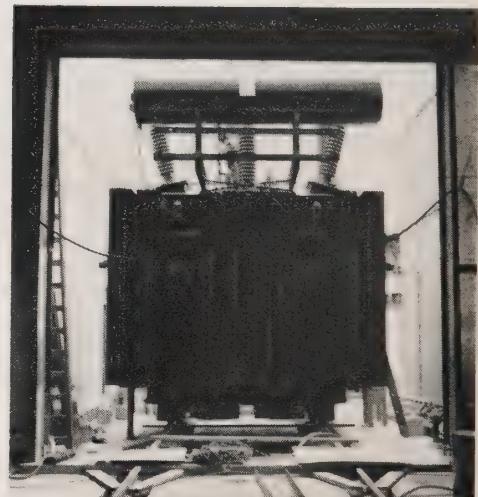
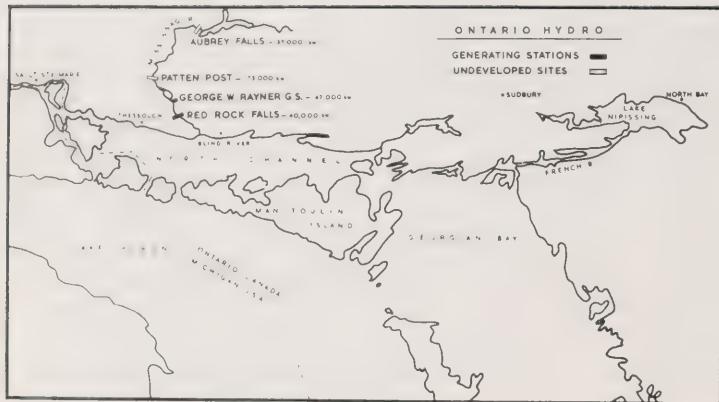
"... I have been unable to find, upon the evidence, any ground for the various charges which have been made against Hydro or its officials, and there has been no substantiation of any allegations of impropriety, negligence or of careless judgment on the part of any of these parties."

—Excerpt from report by Mr. Justice G. A. McGillivray, Commissioner.

*Royal Commission appointed February 23, 1960, to investigate charges relating to the purchase of lands in the City of Sarnia by Ontario Hydro from Dimensional Investments Limited.*

# RED ROCK "ON THE LINE"

New Mississagi River plant starts career of service



MAIN TRANSFORMER for the station has been installed at the rear of the powerhouse. The 62½-ton unit stands approximately 18½ feet high.

WATER POURS through the sluiceway section of the plant's main dam. Also visible are the log chute in the foreground and the long bank of transformers immediately behind the powerhouse.



FOR THE FIRST TIME, electronic governors, which are more sensitive to power load changes than the conventional hydraulic type, are being used on the turbines at Red Rock. Here components of the second, 160-ton turbine are being installed.



**T**WENTY thousand kilowatts of electricity—enough to supply an average community of 25,000 people—began flowing into Ontario Hydro's Northeastern power grid early this month.

After more than two years of construction, the first of two 20,000-kilowatt generating units at the Red Rock Falls hydro-electric station on the Mississagi River, 50 miles east of Sault Ste. Marie, was

placed in service. The second unit is scheduled for operation before the end of the year.

When completed, the \$19.1 million plant will be operated by remote control from Hydro's George W. Rayner Generating Station, 15 miles up river. Its electrical output is fed into the Northeastern transmission network through Rayner-Sudbury high-tension circuits, which pass within

a few hundred yards of the site.

Construction started in 1958, and, at the peak, more than 550 men were employed in building the powerhouse and main dam.

Red Rock Falls brings to 19 the number of hydro-electric plants operated by Ontario Hydro in the Northeastern Region. Hydro serves more than 100,000 residential, rural, and industrial customers in the 105,000-square-mile area. ■

RED ROCK'S main dam, which spans the Mississagi River, is 952 feet long with a maximum height of 95 feet. When the 2,200-acre headpond was flooded recently the water rose to a point just below the tree-line along both banks.



LAST YEAR'S Grey Cup classic was played at the C.N.E. Stadium in Toronto. The trophy, shown on the left, was presented by His Excellency Earl Grey, then Governor-General of Canada, on June 1, 1909. The first game was held that year, and the University of Toronto defeated Toronto Parkdale 26-6. The Grey Cup became the responsibility of the Canadian Rugby Union in 1920.



# BINGE OR BONANZA

by Ken McKee

A FEW days from now more than 38,000 people will pay close to \$325,000 to watch a football game in Vancouver.

Millions more will watch it on television, or hear it on radio.

Thousands of dollars will be wagered on its outcome, and people who don't know football from fentanyl will ask who won in order to find out whether they shared in one of the many pools conducted on it.

Part of the total receipts of half a million dollars will keep football operating in the smaller cities across the country.

Sometime Saturday, November 26, distraught hotel managers will count up the property damage, and weigh it against their share of the million and a half dollars the celebrants have spent in the city; weary police will figure that in about 48 more hours the last of the stragglers will have left for home; and a football player who has earned more than \$12,000 for the season will be pouring champagne into a trophy which bears the inscription "for the amateur football championship of Canada."

The occasion, of course, is the Grey Cup game, or, as is more

appropriate now, Grey Cup Week.

It's East vs. West on a football field, in hotel lobbies, on trains and planes, and in spite of what Rudyard Kipling wrote years ago, the twain have been meeting regularly since the early 1920's, when Edmonton Eskimos started the whole thing by challenging Toronto Argonauts. They lost, 23-0.

Another 14 years passed before Winnipeg Blue Bombers and the great Fritzi E. Hanson brought the west its first Grey Cup. And the Eskies weren't to win until 1954, when the Pop Ivy-Jackie Parker dynasty began.



**Canada's Annual Grey Cup celebration is  
part football, part hoopla — but all spectacle**

The huge crowds, festive atmosphere, beauty contests, parades, financial bonanza, and wins for the west, associated with the modern Grey Cup are recent phenomena.

Back in 1920, interest in the final was so low that a Toronto trust company wouldn't give the trophy space in its vaults, and, as recently as 1940, the gross gate was less than \$4,000.

Last year an oil company spent more than that on its float for the parade, and the lowliest substitute made almost as much for his season's play.

The Mardi Gras aspects of this

football game actually came into being in 1948 when Calgary, the city which had attempted unsuccessfully to get an east-west play-off started in 1911, rolled out of the foothills with chuck wagons, 10-gallon hats, pretty girls, cowboys, and a rambunctious Stampededer football team.

The westerners roared into town and took Toronto, the staid, conservative metropolis of the blasé east, by storm. But the Queen City was equal to the challenge, thanks to a reformed ranch hand named Hiram "Buck" McCallum, who happened to be mayor at the time.

He rode on horseback from the Royal York Hotel to City Hall, and ate a breakfast of wheat cakes and bacon cooked on location by Don McKay, the mayor of Calgary.

And, of course, Calgary won the game for the west's fourth victory in 27 years.

That was the start of it!

Eventually the obvious was added — a beauty contest, for amateur talent only. And the parade got bigger and bigger. Toronto's monumental spoof of herself as Toronto the Good became a national talking point after

*(Continued on page 6)*



CHOOSING Miss Grey Cup is a highlight of the present-day celebrations. This is Joan Van Boven, Miss Montreal Alouette, who won the coveted distinction before the 1958 game.

JUBILANT BLUE BOMBERS held a victory celebration in the dressing room by pouring champagne over a team-



EVEN CANADA'S Prime Minister John Diefenbaker was on hand for last year's kick-off. Holding the ball was John Bright, Canadian player of the year. Others from left are: Roger Nelson, outstanding lineman of 1959, Toronto's Mayor Nathan Phillips, Mayor Lloyd Jackson, Hamilton, and Mayor Juba, of Winnipeg, whose smile seemed to indicate his confidence in game's result.

the hoopla in Vancouver in 1955.

And indeed the Grey Cup shenanigans convinced westerners once and for all that Torontonians could laugh at themselves, and helped erase some of the bitterness outsiders had long associated with their city.

After Calgary's victory in '48, the cup came east and stayed until Pop Ivy and Jackie Parker brought the west of age in 1954. Now easterners are wondering whether their predecessors made a dreadful mistake in letting those brash young Eskimos challenge for "their" trophy way back in '21.

These are more Grey Cup stories than anyone ever will have time to read or recount. Every year there has been the usual quota of heroes, or goats. Sufficiently so to prompt a writer to prepare a piece a couple of years ago entitled, "Who'll Goof the Grey Cup This Year."

The celebrated Karpuk blunder of 1948 and the Hunsinger incident in 1954 were two of the more disastrous boobs of recent times. Pete Karpuk of the Ottawa Roughriders stood by dumbfounded while Woody Strode, now a Holly-

wood actor, scooped up a wide lateral, which was offside but in play, and ran 20 yards to set up the winning touchdown for the Calgary Stampeders.

Hunsinger's fumble of '54 resulted in a 90-yard touchdown run by Parker after Montreal seemed to have the game won, and with the possibility of adding to its 25-20 margin.

And heroes? As many as there have been cup games. Hanson in '35; Red Storey's three second half touchdowns for Argos in '38; Joe Krol's game-winning kick in 1947; Parker vs. Etcheverry in the mid-

50's; Bob Dean, the forgotten man who kicked the winning point after Parker's touchdown in '54.

Stories of courage? The greatest perhaps came out of the 1954 game, when Eagle Keyes, the Eskimos' centre (and now their coach), played most of the game with a broken leg.

What makes the Grey Cup the tremendous spectacle that it is?

It is one of the few symbols of national unity in a small country divided by distance and thought, but which gets together annually to disagree on one subject—football.



Parkhill,

the community of

# A HUNDRED THOUSAND WELCOMES



by Phyllis Mitchell

THE lilting tones of the Gaelic tongue have faded from the pleasant southwestern Ontario community of Parkhill, but residents still remember their Scottish heritage with considerable pride. When its centennial was observed several weeks ago, "Caed Mille Failthe"—a hundred thousand welcomes—headline the program, and a "Tighich"\*, where returning kinsfolk could meet friends and renew old memories, was held.

The community received its name from Simon McLeod whom many regard as the "father of Parkhill." Although there were others there before him, he laid out the lots in the southern section of the village, giving streets various Scottish and McLeod family names. He

\*(Tighich—a house subject to callers.)



was also first reeve of the incorporated village.

During its earliest days the settlement was known as Swainsby and then Westwood. Simon McLeod re-named it Parkhill in honor of his home town in the parish of Logie, Rossshire, Scotland. It is said that, through an error, the post office records referred to it as Park Hill, although residents always thought of the name as one word. It was only last year that Postmaster John C. Dawson succeeded in having the Post Office Department change it to "Parkhill" in accordance with the intention of Simon McLeod.

At the present time, Parkhill, with its population of approximately 1,150, is beginning to stage a comeback under the leadership of its energetic young Mayor, Donald Gooding. Apart from its

centennial significance, residents expect to be able to look back on 1960 as the year in which the long standing water problem was finally solved.

Although abundant and not detrimental to health, the water supply has been steadily increasing in sulphur content during the past 25 years, with a resulting unpleasant taste. Despite the expenditure of large amounts of money, time and thought, the problem has remained unsolved, and numerous prospective industries have by-passed Parkhill. Nevertheless, the community never lost its courage, and the belief that it would, eventually, have a chance to grow has always prevailed.

Public Utilities Commission Manager Vincent Hamacher reports that the Ontario Water Resources Commission has de-

signed an aeration and filtration plant to correct the problem, and it is expected that construction will soon be undertaken at a cost of \$142,000. As soon as the new plant becomes a reality, a Parkhill landmark, the water tower built in 1912 behind the town hall, is likely to disappear.

#### Steady Growth

The Parkhill Public Utilities Commission came into being in 1923, although electric power had been supplied to the town by Ontario Hydro since May, 1920. A total load of 150 kilowatts in 1923 has increased to 847 kw today. The P.U.C. now serves 439 domestic consumers; 39 commercial, and 12 industrial accounts.

Two utility commissioners, Gordon Fraser and Laurence Box,

*(Continued on page 10)*



NEW FLOODLIGHTS were installed in the community's Coronation Park for this year's centennial celebrations. Watching Parkhill P.U.C. lineman Robert Brunswick at work are (left to right): Dougal Gray, P.U.C. Manager Vincent Hamacher and Committee Chairman G. Elson.



ANOTHER SUPERINTENDENT during the floodlight installation, two-year-old Patrick Michelson watches proceedings through the port of a World War I cannon.

PARKHILL is an important Ontario community on Highway 81, 40 miles northwest of London.



PARKHILL CREAMERY LTD. is widely known for its high production of processed eggs, which are shipped to food companies in Canada and other parts of the world. President Clare Pennington is operating the faucet



CENTENNIAL BEARDS were the fashion at Parkhill this year, including three utility officials (seated, left to right): Commissioner S. M. Emery, Manager Vincent Hamacher, Chairman Manfold M. Pennington, and Commissioner Laurence Box; (standing), Robert Brunswick, lineman; Mayor Donald Gobert, and Commissioner Gordon Fraser, fire chief.



have served continuously for 18 years each. Sidney M. Emery, a former mayor and councillor, was Chairman from 1954 to 1956. He is currently Vice-President of O.M.E.A. District No. 7. Present Chairman, Manfred M. Pennington, also a former mayor, is serving his first term in this capacity. Fifth commissioner is Donald Gooding, the town's 36-year-old Chief Magistrate. Head of a lumber and building supply business employing 45 men, he represents the fourth generation of his family to reside in Parkhill, and the third generation to be born in the community. His father, Basil Gooding, was a son of Archie Gooding and grandson of Patrick Gooding, who came to Canada from Ireland 105 years ago. The latter helped to build the railroad through the district.

Mayor Gooding, serving his first

term as mayor, is optimistic about its future, and reports that a survey for a sewerage system as well as plans to provide artificial ice at the arena are underway. It is also believed that the community will benefit from the large dam which the Ausable Conservation Authority proposes to build at the northern end of the town as a conservation and flood control measure. The top of the dam will likely comprise part of Highway No. 81, which runs through Parkhill. Like all residents of his community, Mayor Gooding hopes that solving the problem of the high sulphur content in the municipal water supply will make Parkhill more attractive to new industries.

However, the community already has a number of progressive firms, including the widely known Parkhill Creamery Ltd. It specializes in the processing of frozen egg volks

and whites, which are shipped to food companies in various parts of the world. President Clare Pennington says that Canadian requirements for frozen whole egg mixtures for use in the manufacture of baked goods, mayonnaise, noodles, baby foods and other products are 24 million lbs. yearly, and his firm supplies 3½ million lbs. Eggs are shelled by intricate machinery, yolks and whites mixed, and the product placed in containers for freezing—almost in one continuous operation. A *no other* process separates whites and yolks for other types of products.

Last year the firm produced 61½ million pounds of processed eggs, over three million lbs. being exported to Italy, Switzerland, Holland and West Germany. It is said to be the largest of its kind in Canada. In addition to local students, visitors come from the

Ontario Agricultural College in Guelph, as well as universities in Michigan and Ohio, to observe plant methods.

Another active industry is the Parkhill Brick Company Ltd., whose products are shipped to all parts of Canada as well as being exported to other countries. Waters Elevators Ltd., Middlesex Creameries Ltd., Gooding Lumber, and the Parkhill Machinery Company Ltd. all contribute substantially to the industrial life of the community.

#### Home of the Grattans

Parkhill is known among horse-racing enthusiasts as "The Home of the Grattans." The story goes back to 1910, when Charles Barratt imported Grattan Royal and brought him to his Spring Creek Farm. It is said that Grattan Royal's colts held nearly all the records, and became the talk of the country. In fact their fame spread to three continents. Since Grattan Royal's death in 1924, his descendants have carried on his tradition, and each year finds them among the top winners in the United States. Meadow Rice, White Mountain Boy, Belle Acton, Widower Creed and Shadow Wave all have records below two minutes, and in Canada the Argyles, the Herberts and many others are notable. The Parkhill Turf Club was organized in 1951, and successful race meets are held each year.

Parkhill has a number of fine churches, and on its attractive tree-lined streets substantial old homes mingle pleasantly with modern dwellings. The public and separate schools are up-to-date, and the North Middlesex District High School is one of the finest to be found in this part of the province. Since 1870 the area has been served by the *Parkhill Gazette*, which is now published by two brothers, W. G. and G. A. Campbell. During 1959 a dial telephone system went into service in Parkhill.

The community is also the location of the Parkhill Girls' School,

(Continued on page 24)



## Who can fix it?

WHEN Parkhill celebrated its centennial earlier this year, local officials tried valiantly to find someone to fix the 59-year-old Thomson enclosed arc lamp shown in this photograph between Commissioner S. M. Emery, left, and A. J. Christie, Canadian General Electric Co. representative. The lamp was one of several once used at Parkhill for streetlighting, but was not in working order. After numerous inquiries, the centennial committee located a London man who put the lamp in shape for the celebrations. ■



Canada's second

# SUBWAY SAGA

**Men and machines  
are carving out a new route  
beneath Toronto's  
University Avenue  
these days**

by Don Carmichael

**M**EN and giant "mechanical moles" are silently burrowing tunnels beneath the broad expanse of Toronto's University Avenue these days.

Work is proceeding smoothly—despite occasional above-ground arguments—on Canada's second subway, the \$200 million Bloor-Danforth-University line of the Toronto Transit Commission.

Being built in three stages over a 10-year period, the eagerly-awaited 10-mile route will be the ultimate in rapid transit.

It will have everything but public washroom facilities at its 25 stations, through which an esti-

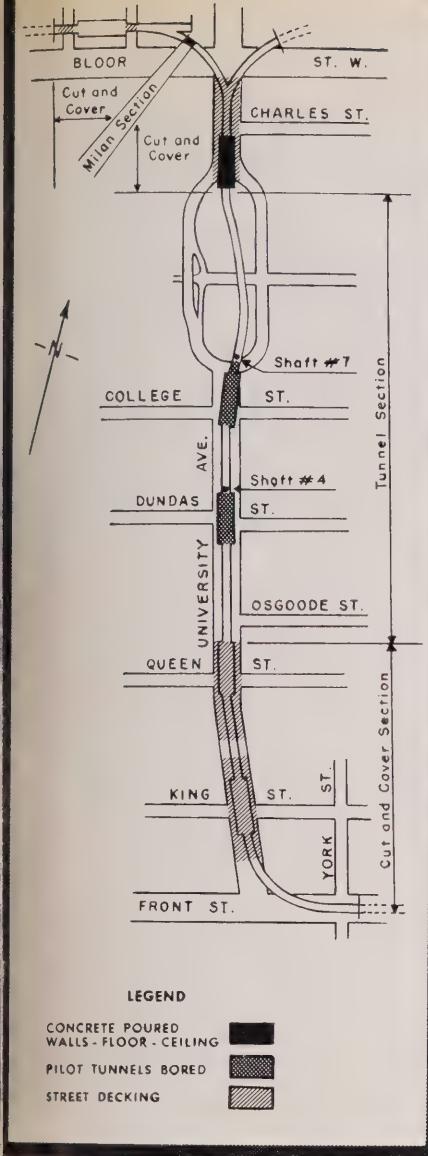
mated 345,000 passengers will pass each day.

A joint undertaking of Metropolitan Toronto and the TTC, the subway is designed to reduce traffic congestion on the city's main crosstown artery, save thousands of riders considerable travelling time, and swell tax revenues through increased property values along its route.

The two-mile University Avenue section, which will run directly under the 70-year-old main block of the Ontario Government buildings in Queen's Park, is the first stage of construction.

Launched last November 16 by





MID-DAY TRAFFIC moves unhampered on University Ave. (photo, left), where subway construction is underway on two sections. The map (right) indicates the parts which are being constructed by the cut-and-cover method and tunnelling. Milan section near Bloor St. has been completed.

THIS CUT-AWAY VIEW of St. Patrick Station, which will be similar to Queen's Park Station, shows the arrangement of tunnels and platforms, as well as escalators to mezzanine floor. Between stations the tunnels narrow to accommodate only trains.



Ontario's Prime Minister, Leslie Frost, in official ground-breaking ceremonies, it will extend north from the Union Station terminal of the Yonge Street subway, and is scheduled for completion by January, 1963. In fact there is a slight hope it might be ready sooner.

Appropriately dubbed the "white collar subway," the University link will speed, to and from study and work, thousands of University of Toronto students, Queen's Park civil servants, Ontario Hydro employees, clerical workers and executives in numerous large head office buildings which flank

Toronto's show-street.

Second stage of the great project, to get under way in January, 1963, is the crosstown portion from Greenwood Avenue on the east along Danforth Avenue and Bloor Street to the University line. This is slated for completion in 1966.

The last stage, to commence in January, 1967, is the west leg to Keele Street and a final eastern segment, from Greenwood to Woodbine Avenue, the eastern terminus. This work is to be finished in 1969.

Some idea of the magnitude of the project is obtained from the land assembly work involved. It is

expected to take about four years to acquire the needed rights-of-way at an estimated cost of \$15 million. Some 850 properties, about 80 per cent of them residential, will be affected.

The controversial Y interchange, at the intersection of the University and Bloor lines, has been termed "a \$10-million waste" by some planning officials, but protagonists claim it will permit trains running east or west along Bloor to be switched to University or vice-versa, thus providing passengers with direct downtown and crosstown transportation.

(Continued on page 14)

There has been no real disturbance of business or major traffic diversion to mark construction, and many Torontonians haven't been aware that the work is under way, although tunnelling work on the one-mile centre portion of the University line is proceeding rapidly.

Piles have been placed at the north and south ends for "cut-and-cover" construction. In this method, the ground is partly excavated and then covered with wooden decking. The remaining work is carried out under the temporary decking without disturbing traffic.

Unlike its predecessor, the Bloor-Danforth-University line is being built with the accent on quietness.

There is a minimum of construction noise from the tunnel section between Osgoode Street and the north end of Queen's Park, and the only visible signs are the headworks of tunnel shafts that have been sunk in the centre boulevard and the wooden decks mentioned above. Thus, the relative quiet, so necessary for patients at three of the city's largest hospitals which are grouped on University Avenue near College Street—Toronto General, The Hospital for Sick Children and Mount Sinai has been preserved.

The head-hammering noise of conventional pile driving has been eliminated in the "cut-and-cover" construction by use of a pre-boring method. Holes are bored before steel poles are placed and secured by a foundation of concrete.

Also tried out in a 162-foot test section, was the "Milan Method" of construction, which eliminates the need for piles, decking and forms for subway walls. As might be expected, this technique got its name from Milan, Italy, where it is being used.

In this method, trenches are excavated and filled with a solution of bentonite, an inert, porous clay, which keeps the trenches from collapsing. Concrete is forced to the bottom, displacing the bentonite



and filling the trenches. The street is then excavated to the level of the subway roof, the roof is poured and the street backfilled and reopened for traffic.

The test, carried out near the point where the University and Bloor subways will join, proved satisfactory, and the method will be considered for other parts of the project.

Tunnelling is being carried out by Robert McAlpine Ltd., a firm which has done this work in the United Kingdom.

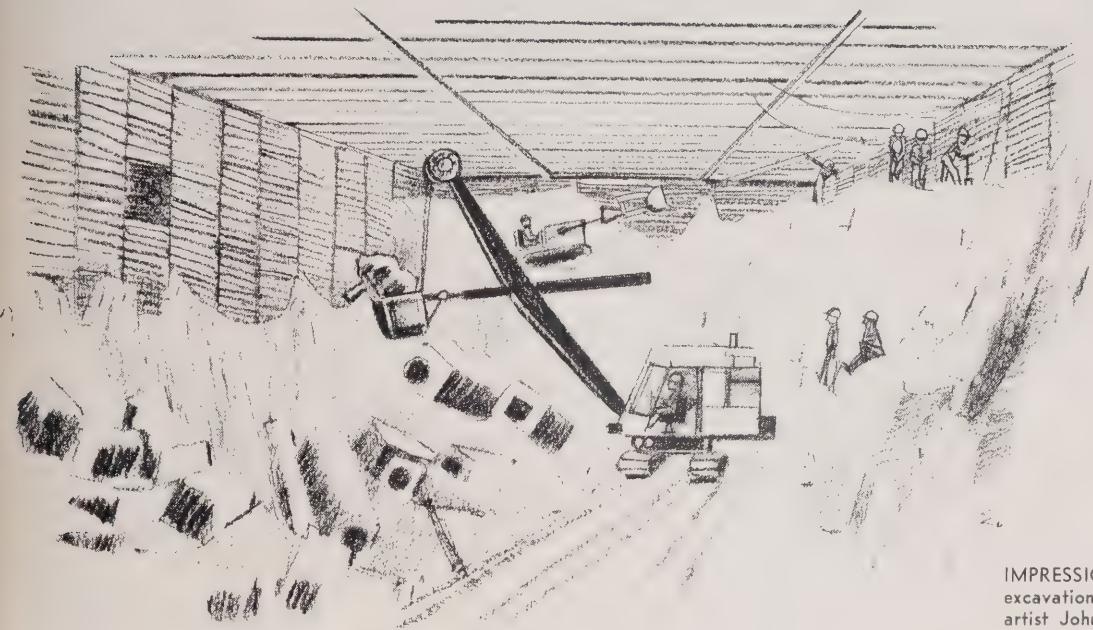
Working at a depth of 51 feet under high pressure conditions up to 15 pounds per square inch above

normal, sandhogs are using huge tunnel shields, called "mechanical moles" and resembling giant cookie cutters, to burrow out the 16-foot-diameter tunnels.

Weighing 80 tons each, the shields are propelled forward by 20 jacks with a maximum total thrust of 2,200 tons. They eat their way through the earth at a rate of about 10 feet per day, depending on soil conditions. To date, engineers say, quicksand hasn't been encountered, but there is a possibility it might be.

The excavated earth is forced back through doors in the shields, collected and removed to the sur-

MONG THE PROBLEMS encountered in construction of the University Ave. subway has been the temporary removal of this statue of Sir Adam Beck, Ontario Hydro's first chairman, and 1,000-ton South African War Memorial.



IMPRESSION of tunnel excavation near Queen St. by Hydro artist John Elphick.

face, where it is hauled away in trucks.

To prevent the "bends," caused by nitrogen bubbles in the blood, workmen are required to spend a stipulated time in an air or medical lock before entering or leaving the tunnels.

For the stations, the tunnels will be 24 feet in diameter, and even bigger shields, weighing 130 tons and with a maximum thrust of 3,300 tons, will be used.

When complete, the subway will consist of 1½ miles of tunnel (in addition to University, a short section from Yonge to Sherbourne Streets on Bloor will be tunnelled)

and eight miles of concrete-box underground. There will also be a half-mile of open cut.

Travel from one end of the Bloor subway to the other will take only 23 minutes. It now takes 49 minutes to go from Keele Street to Woodbine Avenue by streetcar.

At Greenwood, shops and storage yards will be constructed on a 38-acre site, while space for 328 cars will be provided.

The cars themselves may be quite different in appearance from the Yonge Street subway cars.

Fluted side walls of stainless steel or aluminum are being considered. The cars will be lighter and the

trains faster, with a top speed of up to 55 m.p.h.

More efficient fluorescent lighting will be used, and forced air ventilation will contribute to added passenger comfort. This is great news for subway riders, who have complained that the Yonge subway resembles a mobile Turkish bath in summer.

Mechanical improvements will include dynamic braking by the motors to reduce brake shoe dust and wear, as well as new electric door machines to eliminate operating difficulties in cold weather.

Also new will be a public address  
(Continued on page 23)



# Know what you should about lighting?

UNLESS you are a lighting expert, the odds are that you're "in the dark" with respect to at least one aspect of how lighting can be used to save your eyes, decorate your home, keep moods friendly. With this 10-question quiz, you can test yourself, perhaps be enlightened by the answers.

- (1) How many different types of lighting are needed in the home?
- (2) Is it possible to have too much illumination?
- (3) Can there be glare even when the illumination is insufficient?
- (4) How much wattage is needed in (a) a table lamp, (b) a wall lamp, (c) a dresser or dressing table lamp, (d) a floor or swing-arm lamp?
- (5) Which gives more light — one 100-watt bulb or two fifties?
- (6) Which is the best type of lamp for studying?
- (7) What's the most efficient way to light a kitchen?
- (8) How do light controls or dimmers work, and how are they best used?
- (9) How can you use light to enhance the bright spots and correct the dull aspects of your room layout and decor?
- (10) What are the relative merits of fluorescent and incandescent lighting?

(1) According to the experts, each home needs four kinds of lighting: **area**, or room-wide illumination; **task** lighting, a specific light source right at the point where the reader is reading, the sewer sewing or the card-player playing; **perimeter** lighting to brighten ceilings and outer edges

of a room; **accent** lighting to point a prideful finger at your best furnishings. Most light fixtures serve at least two of these functions, and some serve all four. A floor lamp sheds light on your reading matter (task lighting) and also illuminates the ceiling (perimeter); wall coves or window valances can provide

perimeter, accent and, perhaps, task lighting; an overhead ceiling fixture can light both ceiling and kitchen counter top (perimeter and task). And, of course, all individual light sources add up to the total, or area lighting.

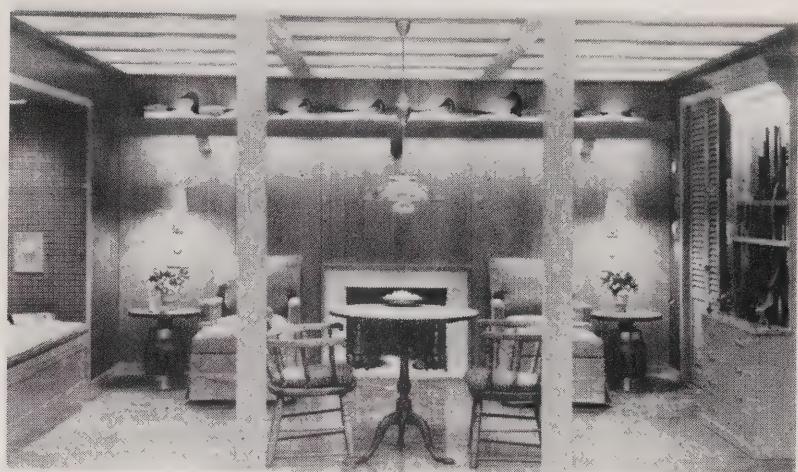
(2) Not really, as long as the light sources are properly shielded and the illumination is properly diffused. For instance, with properly directed daylight illumination, it's possible to have several hundred foot-candles with no resultant discomfort.

(3) You bet! Glare is also caused by badly placed or poorly designed lighting equipment, by raw light direct from unshaded bulbs, or by light bouncing back at the viewer from glossy paper or shiny surfaces. Far too many homes, as a matter of fact, have islands of strong, harsh light surrounded by pools of darkness. To avoid glare while getting maximum light distribution, (a) cover all bulbs and fluorescent tubes, (b) make sure lampshades are open at the top and wide at the bottom, with white or near-white lining, and are deep enough to conceal the bulb and dense enough to block glare-producing rays, (c) put a diffusing



POLLY BERGEN shows how the hostess can make a dinner festive with candle-glow. Lights operated by dimmer control add sparkle to silver, crystal and even the guests.

THIS ROOM has four kinds of lighting: area lighting overhead; perimeter lighting in the valances at the sides, fixtures to accent the antique books and task lighting provided by the lamp near the sofa.



bowl under the shade to further soften the light, (d) place floor lamps behind and slightly to one side of the viewer.

A pool of light beside the TV set in an otherwise darkened room is bad. You need dim light from several sources around the room while watching TV, and the total glow should approximate the light coming from the TV screen.

(4) Here are the minimum wattages recommended by one lighting bureau: table lamps, 150-watt bulb; wall lamps, 150 watts (if the lamps come in pairs for study desks, put a 100-watt bulb in each); dresser lamps, 100 watts; floor and swing-arm bridge lamps, 150 watts. Remember that tinted bulbs absorb some light, and use the next size: a 150-watt colored bulb instead of a 100-watt white bulb. Of course those wattages produce the right illumination for maximum seeing tasks. They're too bright for rest and relaxation, and that is why they should be controlled with a dimmer.

(5) The 100 watt. Why? Because the hotter the bulb filament, the more light is released. A 100-watt bulb will not only heat faster and hotter than a 50; it will give

off about 25 per cent more light than two fifties placed close together.

(6) The one which diffuses the most light with the least glare over the desk area. Two "pin-to-wall" lamps are an excellent choice, but "bullet" light and gooseneck lamps produce glare. By providing two narrow a beam of light (in the case of the gooseneck, cutting out upward light completely), they'll make the average scholar take a dim view of his studies.

(7) A complete ceiling of light or a close-to-ceiling fixture more or less centered in the room provides good over-all lighting. Ideally, there should be a wall bracket above the range, sink and over every work counter (if one of these fixtures is under a window, a window valance will do the trick).

(8) By turning the dial on the light control or dimmer, you can create any level of illumination you want, from the strongest task light to the softest candlelight-and-music glow. Light controls make every light both functional and decorative. In the dining room, women love to make every dinner festive with candleglow. It makes the silverware, crystal and conver-

sation sparkle. And it makes them seem prettier, too.

Bathroom lighting needs vary from the dim light kindest to groggy early risers, to the strong light needed for shaving and making up, to the normal light that shows you how the old map will look to the world that day. And, of course, the living room, to earn its title, needs a spectrum of lighting levels to fit the family's varied activities.

(9) A few new fixtures can produce dazzling results. For example, you can widen a narrow room with matching wall brackets or lighted valances placed on opposite walls. If the ceiling is low, a wall-to-wall cornice will give it a visual lift; here again, a similar installation on the opposite wall heightens the effect. Small entrance hall? Make it seem larger with a cornice above the door and along one wall; a lighted hallway mirror adds to the illusion of spaciousness.

Wall lamps or brackets call flattering attention to a painting, plant grouping or shelf of antiques. Wall brackets can unify twin beds ranged along one wall or in corner arrangements; by eliminating the

(Continued on page 24)

# OFFICE IN THE ROUND

HERE'S a common mark of distinction between Stratford's new utility building and the city's famed Festival Theatre. They are both, more or less, in-the-round.

But that's as far as the resemblance goes. You'll get no marks for concluding that one was copied from the other.

Douglas Seath, Stratford P.U.C. general manager, says "we have often been accused of copying the design of the Shakespearean theatre. But, in actual fact, it was the shape of the lot that dictated the shape of our building."

Only a few short blocks from the city's main intersection, the building is situated on a long, narrow piece of property.

To take advantage of the lot, the general office was built in-the-round.

"We picked this site because it

was as close as we could get to a downtown location," Mr. Seath said.

"And it's in a good situation for us to serve our customers—right behind us are the maintenance service centre and the bus garage, which have been there a number of years.

"Figuratively, you might say we're now all under the one roof."

But Mr. Seath admits "we might have been subconsciously influenced by the theatre."

"That's only natural in Stratford."

Designed by architect G. M. Ritchie and built by the Gaffney Construction Company, both of Stratford, the building is attractive and, at the same time, both functional and economical.

With the office-in-the-round at front, every square inch of floor

NO TROUBLE AT ALL for customers to find the department they want in the new Stratford P.U.C. building—they're all spaced around the curved counter in this new office. Executive offices and service departments are located behind main business office in split-level structure.



space has been used to full advantage.

One unique feature of the building is that it's a split-level structure. On the lower floor are the general office and billing area, the executive offices, board room and storage area. The upper floor contains the engineering, service and meter departments.

A unit substation has been installed to meet the needs of electric heating and air conditioning.

General lighting is obtained by flush fluorescent units throughout the building. The main office, executive offices and board room feature ceiling panel lighting.

The lighting system, designed by the Lighting Section of Ontario Hydro, is believed to have one of the highest levels of illumination in any commercial building in the province. ■



LANDMARK for many years, the former headquarters of Stratford P.U.C. in main business section of the city has fallen prey to demolition squads. The local utility moved to its new location on May 2 this year. A trust company will erect a building here.



OUTSIDE CURVE of the new building houses the billing department. Here L. G. Stickney, utility accountant, discusses a problem with Margaret Flood. In the foreground is Miss Ruth Smith.



THIS appliance service centre at the rear of the main building complements the work of appliance dealers. Thomas Sansom does repair work while Miss Eva Hoffmeyer handles accounting.

DURING the inauguration ceremonies at Stratford, Chairman Alan Moore (left) and Commissioner R. E. Mountain held the ribbon as Ontario Hydro First Vice-Chairman W. Ross Strike declared the building officially open.



CLEAN LINES mark the design of Stratford's new utility building, which is located near the main business section.

## STRATFORD INVESTS IN QUALITY

**Citizens mark official opening  
of new public utility building**

It's an old adage that no one ever regretted buying quality—and no citizen of Stratford is ever likely to regret the money spent on the public utility commission's new building.

At the official opening on October 5, W. Ross Strike, first vice-chairman of Ontario Hydro, said the Stratford office is a fine example of the numerous municipal utility buildings which have been built throughout the Province in the last few years.

"And I am very grateful for the opportunity of having attended many of these opening ceremonies," Mr. Strike said. "For it means the municipalities are catching up with their backlog."

Business men have long since recognized that fine buildings bring tremendous benefits to their organizations, he added.

"They give a different attitude

to employees. Their morale is raised and their work becomes more efficient. When they become prouder of their work, the whole operation gets a tremendous lift."

Continuing, Mr. Strike said that when the inevitable expansion comes along—an expansion that will continue for a long time—"the utility premises will be here to take care of it."

### Room for Expansion

Stratford's new civic building was designed to handle at least three times the present public utility operations. It has office space and facilities to handle a city of 60,000 population.

"Demands for electric energy are increasing steadily," Mr. Strike continued. "Year after year we have to increase the capacity of our generating stations at a rate between six and ten per cent."

"But we can only maintain the low cost of electricity if we can make the most advantage of this capacity. We'll have to encourage the use of more and more electricity on a 24-hour basis—in the home, in commerce, in industry, on the farms."

In concluding his remarks, Mr. Strike said that changing conditions bring new problems.

"Every citizen of Ontario has a

stake in Ontario Hydro. They get no money dividends—dividends come in the form of efficient service.

### Low Rates

"Our 2,000,000 customers have very low rates. And that's only possible because the people of the Province have made certain that Ontario Hydro had every opportunity to develop along with the economy.

"We're going to miss the boat if we do not change with the times. We may have to take a look at set ideas—and adjust and amend them in line with the times."

Congratulating the Stratford Commission, the general manager and his staff "for the wonderful job they have done," Mr. Strike added:

"I think this building is very necessary. It is abreast of our age, and is a fitting centre to provide better administration and service for the residents of Stratford."

Taking part in the ceremony were members of the Stratford Public Utility Commission; Douglas Seath, general manager of the utility; W. H. Edwards, regional manager of Hydro's West Central Region, as well as representatives of the A.M.E.U. and O.M.E.A. ■

by Mike Sullivan.

# COLD WEATHER HINTS FOR THE HOUSEWIFE

by Gwyneth Reed, Ontario Hydro Homemakers' Service



**S**oup of the day—How tempting that sounds these chilly days. Many of us can conjure up memories of the soup pot simmering on the back of an old wood-burning stove for hours. Into this was put a large, meaty soup bone and lots of vegetables. Then delicious, steaming bowls were placed in front of the hungry, appreciative family, as the appetizer for a complete hearty meal.

The soup pot on the back of the stove is a thing of the past. Now, the versatile electric saucepan provides perfectly controlled cooking that allows soup to simmer at a constant temperature. With the advent of the mechanical age, our appetites are smaller than in great-grandmother's day, so a hearty soup is not just an appetizer, but a meal in itself. The next time you have ham, save the meaty shank to make old-fashioned pea soup for a delicious main supper dish.

*Old-fashioned pea soup  
Chef's Salad  
French Bread  
Coffee  
Cheese and Crackers  
French Fruit Bowl*

\* \* \*

The nippy weather brings other thoughts to mind, besides hot, nourishing foods. We look at the poor drying weather out of doors and thank electrical manufacturers for making every day a drying day with the modern electric dryer. Now, at the touch of a button, or the turn of a dial, we have ideal

drying temperatures for every type of fabric, natural or man-made. The fabric selector allows you to choose sturdy, regular, delicate, wash'n wear woollens, white or colored. Even shag-type rugs, precious blankets, stuffed toys or the most delicate fabrics are dried perfectly.

Some dryers have automatic drying cycles. This means the dryer

senses when the clothes are dry, and shuts off automatically, thus eliminating any guesswork. You don't bother with the timer. However, your instruction booklet gives you the approximate timing for various types of loads. This is convenient for special items and for damp drying before ironing.

There is a "fluff" or "no-heat" setting on most electric dryers. This is remarkably useful. For example, you may "dust" drapes by popping them into the dryer and allowing them to tumble about in cool air. The hazards of a sudden storm or flying insects are eliminated.

You need never worry about rough hands when you dry automatically. The cold winds turn sheets into icy flags with the resultant danger of tearing. An electric dryer treats all fabrics gently, giving much greater wear.

Wash'n wear fabrics tumble dry and wrinkle free. No longer is there a trail of water from the washer to the spot where they drip dry. Many housewives favor these fabrics because they cut down on ironing time.

Children's wet snowsuits will be a major problem for the next few months. However, with an electric dryer as your servant, you pop the wet snowsuit into it, and when your child is ready to go back to school after lunch, or out to play after a nap, there is a warm, dry snowsuit awaiting him. This protects the child's health, and helps your budget, because only one snowsuit per child is necessary. ■

# ALONG HYDRO LINES



## Port Arthur opens two new stations

Port Arthur P.U.C. officially opened two new transformer stations recently during a day-long inspection tour of 14 commission properties.

The Macdonell Street Transformer Station, with a capacity of 8,000 kva, represents a capital investment of \$200,000. The Balsam Street Station has a capacity of 1,000 kva, with provision for another 4,500. These stations are two of the newest units in the utility's capital investment program of \$13,474,753.

## Aylmer authorizes two-year terms

A by-law passed recently by Aylmer Town Council authorizes two-year terms for members of Aylmer P.U.C., the Council and the Public School Board.

At present, members of the commission and the school board hold office for staggered terms. Under the new by-law, which comes into effect in 1961, all terms of office will terminate simultaneously at the end of this year.



## ALUMNI HONOR

Dr. Otto Holden (left), who recently retired as Chief Engineer of Ontario Hydro following 47 years' service, and Carl West, retired superintendent of Canal Services for Canada, were honored by the Engineering Alumni of the University of Toronto on October 29.

Each was the recipient of the gold medal awarded every three years by the Alumni for outstanding achievement in the field of Canadian engineering. The presentations were made by the retiring President of the Engineering Alumni, W. H. Palm (right), Toronto.



## Guelph employee ends 40-year service

Wesley Boulding retired recently after more than 40 years of service with the Guelph Board of Light and Heat Commissioners. He was associated with the gas department until it was sold in 1958, when he joined the electricity department.

Commissioner H. F. Johnson (left, above) presented Mr. Bould-

ing with an engraved signet ring at a ceremony in the board room of the Commission's new building.

## Goderich P.U.C. sets new rates

Customers of Goderich P.U.C. have been enjoying a reduction in rates since October 1 of this year. Under the new schedule, a residential customer using 1,000 kwhrs. a month will pay a net monthly bill of \$10.35 compared with \$10.80 under the previous rates. Commercial and power customers will also benefit under the new schedule.

Based on the load conditions and kilowatt-hour data for 1959, it is estimated that the reduced rates will decrease the utility's revenue from the sale of energy by 6.7 per cent.

## North York veteran retires

A veteran of 31 years' service in top managerial positions with North York Hydro-Electric Commission, Benjamin J. Thackeray retired from active service recently. He held the key position of manager as well as secretary-treasurer for an eleven-year period from 1944 to 1955.

Born and educated in Britain, Mr. Thackeray came to Canada in 1913. During World War I he



DURING a recent dinner in his honor, the retiring Secretary-Treasurer, Benjamin Thackeray (right), with Gordon Gloster, deputy-treasurer, examines a set of golf clubs presented to him.

served with the 19th Hussars and in Mesopotamia with the Indian Cavalry.

Following postwar service with the Government of India and nine years' service with a Toronto automobile firm, he was appointed secretary of North York Hydro in 1929. He was promoted to manager as well as secretary-treasurer in 1944. With the tremendous growth in North York Hydro, these responsibilities were divided in 1955, Mr. Thackeray retaining the latter position, while J. B. Gray, P.Eng., was named manager.

During his tenure of office, North York Hydro has grown from

## SUBWAY SAGA

(Continued from page 15)

system, which will enable the operator, guard or central control to inform passengers of any unusual occurrence.

The stations will have broader stairs and at least one escalator each.

Despite a suggestion that heel-catching ventilation grates should have smaller gaps than the ones on the Yonge subway so women could walk on them without fear, they will be the same size. W. E. P. Duncan, general manager of subway construction, feels that if they were any smaller they would plug up with dirt.

### Moving Monuments

Among the delicate problems that have been encountered by contractors on University have been buildings that required underpinning and monuments that had to be moved.

The statue of Sir Adam Beck, Ontario Hydro's first Chairman, was moved, and the base must be recreated when it is returned to its former position.

Plans to disassemble a tall, 130-foot, 1,000-ton South African War

---

a small rural-type system of operation into a multi-million dollar adjunct of the municipality, providing electric power to nearly 80,000 customers over a 70-square-mile area.

Mr. Thackeray has been a resident of North York since 1920, when he returned from overseas. He is married, and the Thackerays have one son and three daughters, all of whom were educated in North York. A dinner was given recently by his colleagues, who presented him with an attractive television set and a set of golf clubs and cart.

The North York Commission has appointed Emmett M. Campbell, B.Com., to succeed Mr. Thackeray.

Memorial at Queen Street and store it until the subway is completed, touched off a one-man campaign by a Boer War veteran to save it. The man claimed the monument would be destroyed if taken apart. However, this monument will be replaced exactly as it previously stood.

The subway is a 10-year project. But the TTC would like to speed up construction, and has urged rescheduling it for seven years, to save almost a million dollars in interest charges alone, and clear Bloor and Danforth of streetcars three years earlier.

Most important, city fathers claim, is the fact that new development and redevelopment would be spurred along its entire length, and tax revenues would go up that much sooner.

Weary streetcar and bus riders, many of whom spend two hours or more each day travelling to work and back to suburban homes, are all for it.

It can't come soon enough for them. ■

### Annexed areas get new lighting

New street lights will soon cast out the shadows in sections of Sudbury. Sudbury Hydro plans to install 350 new street lights, at a total cost of approximately \$70,000, mainly in those areas brought into the city by annexation on January 1, 1960.

### Wrong fuses in many homes

In a house-to-house survey, the Sudbury Fire Department has discovered that 80 per cent of the buildings inspected so far this year have been overfused.

Formed four years ago as a special branch of the Fire Department, the fire prevention bureau, headed up by George Willmore, grew from one man to two last year, and to four men this year when Sudbury annexed outlying areas.



**M**R. Torrance Dundas, of Walton, is about to prove to W. H. "Bill" Edwards, manager of Ontario Hydro's West Central Region, Hamilton, that you can have your cake and eat it—provided you win an ultra-modern electric stove as a fifth part of a grand prize given by Ontario Hydro during this year's International Plowing Match Draw at Springfield, near St. Thomas. The other four-fifths included a refrigerator, also in the picture, a fully automatic washer and dryer, and a water heater. Mr. Dundas (centre) was just as pleased as his wife with the results of the draw.

## ABOUT LIGHTING

(Continued from page 17)

need for reading lamps, they also unclutter bedside tables. In every instance the lighting is more useful and more decorative when it is dimmer-controlled.

(10) Fluorescent strips make up for their higher installation cost by giving two to two and one-half times as much light as incandescent bulbs of the same wattage. Decoratively speaking, their broad, flat light is ideal for illuminating large wall areas, while incandescent bulbs, which give a warmer-looking light, shine at providing small accent touches. If your color scheme is predominantly blue or green, you'd be better off with fluorescent strips; incandescent lights, though fine for reds, yellows and the warmer shades of brown, tend to darken the cooler colors slightly. Fluorescent lighting can be dimmed as well as incandescent, but you need special dimmer ballasts.

If you got eight to ten of the answers, you should be light-

hearted, for your home must be a pleasant place to live. Five to seven means you must see the light in several important respects. Below five, things may look black now, but look on the bright side—you now know a lot of illuminating facts!

### Hydro veteran, R. H. Starr dies

Ronald H. Starr, who retired as Manager and Secretary of Toronto Township Hydro-Electric Commission on June 30 this year, died on November 11 at Western Hospital, Toronto.

The deceased was 77 years old, and was connected with the electrical industry for some 50 years. Associated with the Toronto Hydro-Electric System and the Orillia Water, Light and Power Commission after graduation from the University of Toronto, Mr. Starr also served with Ontario Hydro in several important posts from 1931 to 1947.

He assumed the management of the Toronto Township Hydro Commission and gave valuable

leadership as the local system changed to a predominantly urban utility. During this time he pioneered new distribution practices while taking an active part in community affairs.

He was a former President and honorary member of the A.M.E.U., and a Vice-President of the Canadian section of the American Waterworks Association. Mr. Starr is survived by his wife, a daughter, two sons, as well as three sisters and two brothers.

### Southampton P.U.C. chairman dies

Josiah William Burns, chairman of Southampton P.U.C. for 31 years, died in Saugeen Memorial Hospital, Southampton.

Born in Southampton in 1880, he lived there most of his life, and was an active member of his community. His wife predeceased him in 1954. Educated in that community, he conducted a grocery and bakery business in partnership with his brother for 54 years.

### HUNDRED THOUSAND WELCOMES

(Continued from page 11) where underprivileged youngsters receive Christian guidance in happy, home-like surroundings. The young residents have the added privilege of living in close proximity to a delightful herd of Athabascan reindeer, as the school's founder, John Wall, also provides a home for Santa's team. In fact, Parkhill may be said to be "southern headquarters" for Santa Claus, as John Wall and the reindeer travel to numerous Canadian cities to assist the jolly old gentleman with his Christmas parades. The reindeer roam an enclosed area on the school property, and also have colorful quarters marked with their individual names.

Parkhill is a pleasant community in many respects, and it is making progress. Its residents share the belief that continued co-operation will enable it to grow and prosper.

(Miss Mitchell is a freelance writer presently residing at Strathroy, Ontario.)

# OFF THE WIRES



AN ARTICLE in a recent issue of a prominent financial newspaper under the heading "Gimmick Market in Gay Gaslight," has drawn some caustic comment from the *Electrical News and Engineering*.

\* \* \*

THE ARTICLE UNDER FIRE reported that "It's back to the gas-light era in Canada," and went on to explain that Consumers' Gas Company of Toronto would supply outdoor post lights at a cost of \$30 plus a \$50 installation charge. The lighting, according to the article, doesn't cost much more than \$1.50 per month for continuous service.

\* \* \*

HERE'S the crackling comment of the engineering journal's editor:

"The article suggests that this will bring a flood of 'Gay Nines' ideas, and asks, coyly, if we have any. Yes, we have. We could throw out central heating and air-conditioning in favor of wood stoves. We could replace automobiles with landaus and broughams. We could start a war with the Boers. But I don't think we will.

"One wonders what hare-brained promoter led the Gas Company into such a scheme. The number of electrical post lights on the market is already astonishingly large. The price range runs from \$18 right up to \$72. The installation cost is only \$30 compared with gas's \$50. As for the running cost, you can compete with the gas-burning Jones' and still save by burning a 100-watt lamp bulb

continuously for \$1 per month. Or you can go one better and have a light sensitive switch to save more fuel. The article says that bugs are not attracted by the lights. Full marks to the bugs for good sound sense."

\* \* \*

WHILE we warmly endorse the sentiments of *Electrical News and Engineering*, we would like to suggest that its estimate of \$1 a month for continuous operation of a 100-watt lamp may be a bit liberal.

\* \* \*

A RECENT ITEM in the *Windsor Daily Star* reported that David Pope, manager of Sandwich West Township Hydro System, had polled several Hydro customers for their estimate of the cost of burning a 60-watt incandescent bulb 10 hours a night for 30 nights.

\* \* \*

HE MADE HIS QUERIES at random during the system's promotion of the sale of lawn lanterns, which are being purchased by citizens who do not want regular

street lights. The guesses ranged from \$2 to a surprisingly high \$8 a month. The actual cost, according to Mr. Pope, is 18.6 cents!

\* \* \*

A HEARTY WELCOME BACK to the Hydro "family" for Ivan L. Bradley, manager of Waterloo P.U.C. The young utility executive recently relinquished this post to assume new engineering duties with a Canadian utility company in Maracaibo, Venezuela.

\* \* \*

THE CONSTANT HUMIDITY of Maracaibo, a city of 400,000, was one of the major factors which influenced the Bradleys to return to Canada. Mr. Bradley resumed his position as Waterloo P.U.C. manager a few weeks ago.

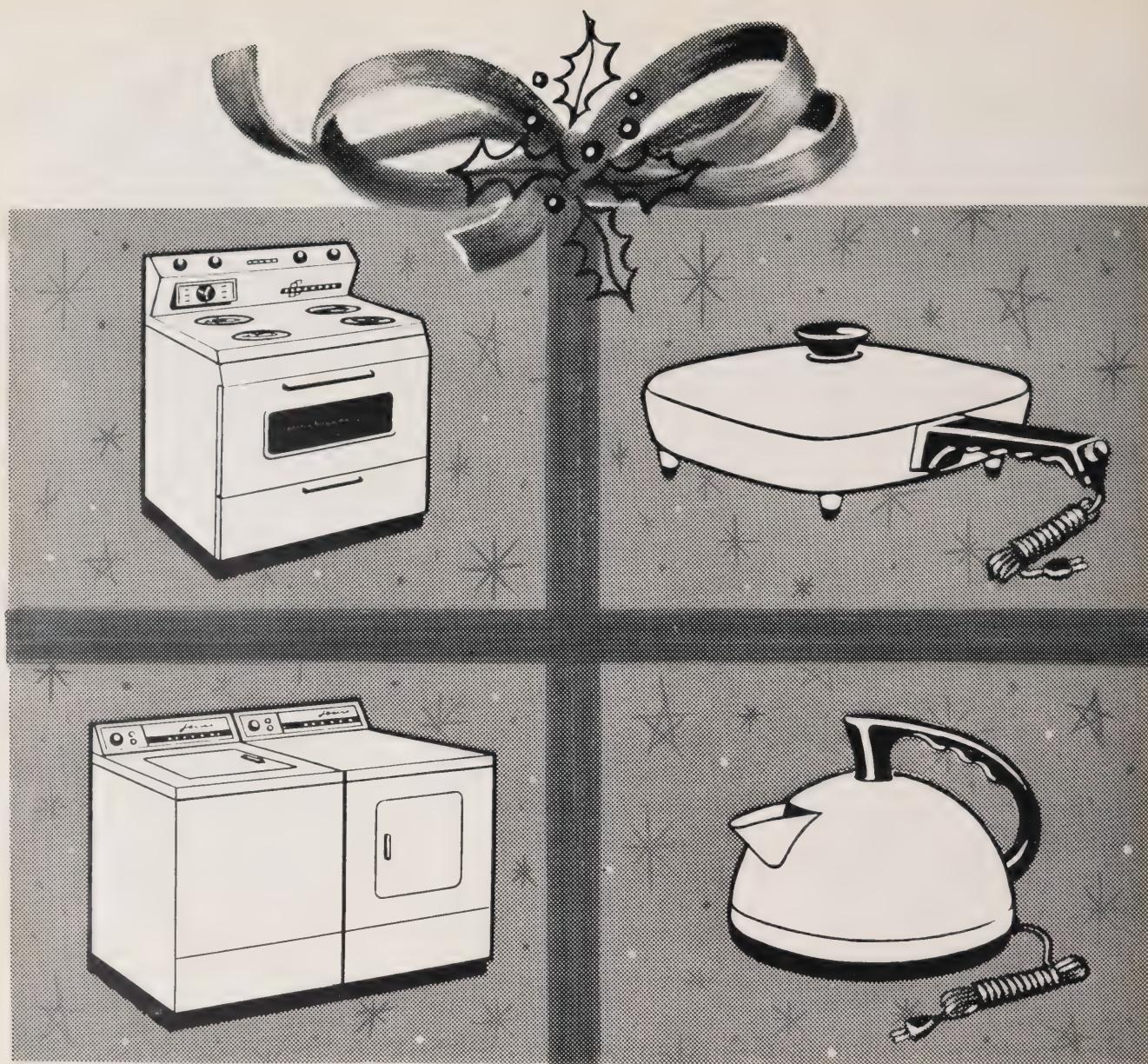
\* \* \*

HATS are off to Petrolia P.U.C., and particularly Peter Clements of the utility's Service Department, for their seasonal window displays.

\* \* \*

THEIR HALLOWE'EN WINDOW, shown in the accompanying photograph on this page, attracted some very favorable comment. Dominant figure, of course, was the traditional witch riding an electric floor polisher. But the imaginative treatment of the pumpkin, which had an electric griddle for a mouth — a coffee maker as a nose — two clocks for eyes and a green hairdryer for the stem, is deserving of special praise. ■





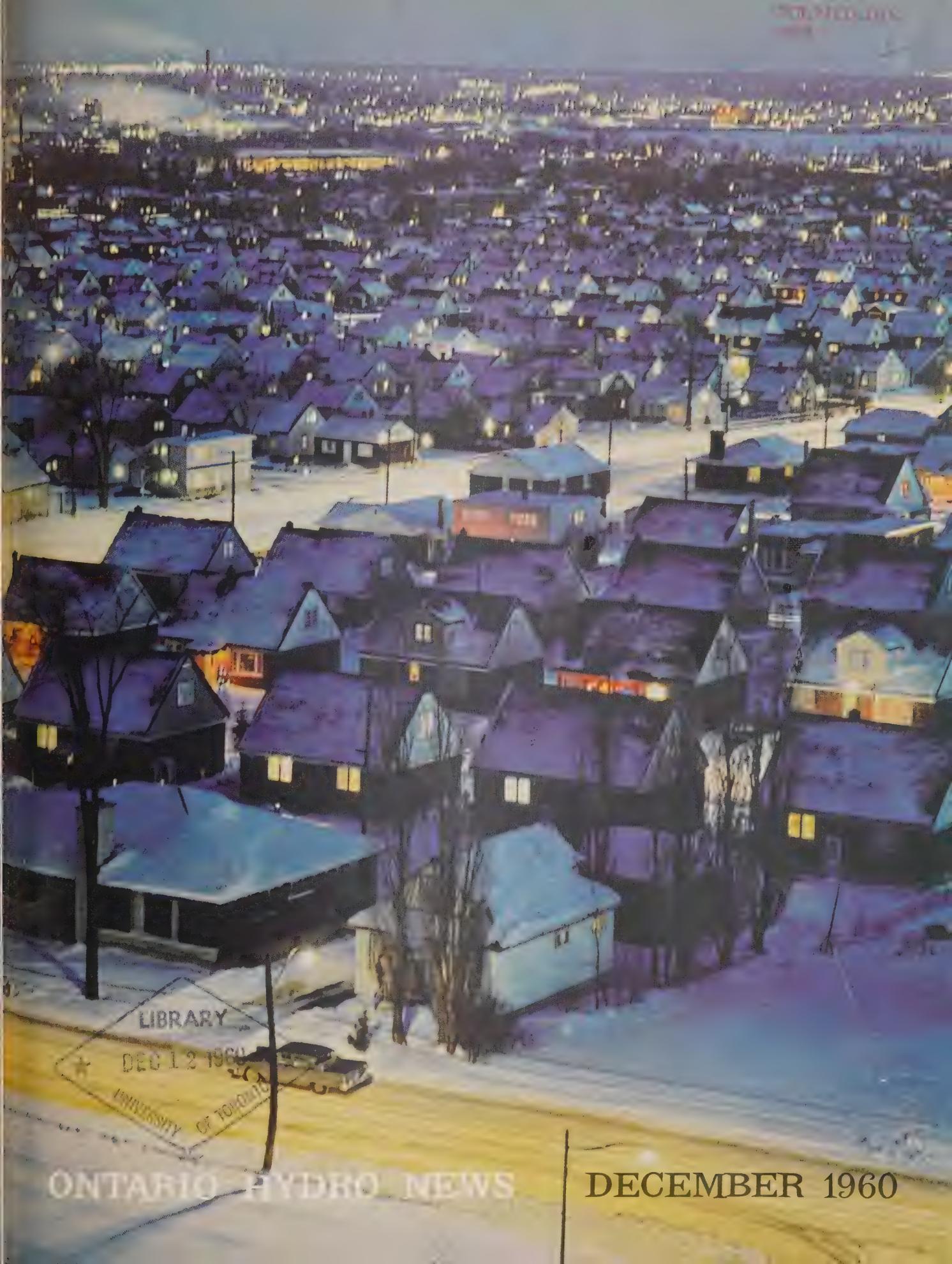
# you give so much more, when the gift is electric

There's a special kind of excitement in electrical gifts . . . Christmas-bright and beautiful . . . with the promise of easier, happier living throughout the New Year, indeed for *many* years

to come.

For quality gifts that keep on giving pleasure and easier living . . . see this year's fabulous array of modern electric appliances.

*To get more out of life . . . get the most out of electricity.*



ONTARIO HYDRO NEWS

DECEMBER 1960

JAMES S. DUNCAN  
*Chairman*



W. ROSS STRIKE  
*First Vice-Chairman*



HON. R. W. MACAULAY  
*Second Vice-Chairman*



LT.-COL. A. A. KENNEDY  
*Commissioner*



D. P. CLIFF  
*Commissioner*



J. M. HAMBLEY  
*General Manager*



## CHRISTMAS GREETINGS FROM ONTARIO HYDRO

ONE of the miracles of Christmas is the evergreen quality of greetings between old friends. How does one convey the same sincere wishes to the same good friends year after year? We often strive to clothe our wishes in fresh words and display them against novel backgrounds. In the end we are likely to fall back upon "A Merry Christmas and a Happy New Year," and find the old phrases have somehow renewed their strength. They ring out like glad bells as they have for many generations.

As they begin to ring for the festive season of 1960, the members of the Hydro family in Ontario have good reason to rejoice and be grateful. They look back at another year of growth and prosperity—the 50th year of Ontario Hydro's delivery of power to the municipal electrical utilities it serves. The thoughts of many members of the Hydro family will return to the severe ice storms of a year ago. They will recall the concerted efforts of neighboring utilities to restore service and the camaraderie of crews toiling through stormy nights. They will read in memories like these the assurance that we can face whatever challenges 1961 may bring with courage and optimism.

These qualities of heart and mind are much needed far beyond Ontario in these anxious days. We must all be aware of the baleful threat of nuclear war, the hazards besetting the free world's economy, and the pressure of population growth upon the world's resources. Equally, we must all be encouraged by the continuance of discussion between nations, the strengthening of international co-operation, and the steady advance of science and technology.

Let us all resolve to go forward together into 1961 to make it our best year yet. Let us make sure that the Hydro enterprise fulfills its vital role in Ontario's economy. Thus we may make our contribution to the strengthening of Canada and the free world.

# ONTARIO HYDRO NEWS



DECEMBER, 1960

VOLUME 47, NUMBER 12

## CONTENTS

## PAGE

Where the Doors Swing Wide	2
They perform miracles at Toronto's Hospital for Sick Children	
The Saga of Santa	7
He started out as St. Nicholas	
On To Little Long	8
Another hydro-electric project moves ahead	
Christmas Tree Crop	12
It's getting to be a big business in Canada	
Tempting Fate	18
Electrical inspectors warn against unapproved appliances	
Dreaming of a Light Christmas?	20
Some hints on Christmas decorations	
Ontario Hydro Scholarships	22
Annual awards announced	
Cookies for Christmas	23
Suggestions from Ontario Hydro Homemakers' Service	
Along Hydro Lines	24
Capsule review of utility operations	
Off-The-Wires	28
Editor's comments	

## THE COMMISSION

JAMES S. DUNCAN, C.M.G., LL.D.  
Chairman

W. ROSS STRIKE, Q.C.  
First Vice-Chairman

HON. ROBERT W. MACAULAY, Q.C., M.P.P.  
Second Vice-Chairman

LT.-COL. A. A. KENNEDY, D.S.O., E.D.  
Commissioner

D. P. CLIFF  
Commissioner

J. M. HAMBLEY, B.Sc.  
General Manager

ERNEST B. EASSON, B.Com.  
Secretary

\*

## EDITORIAL BOARD

JAMES S. DUNCAN, C.M.G., LL.D.

DR. V. S. WILSON  
President, O.M.E.A.

HARRY HYDE, P.Eng.  
President, A.M.E.U.

J. M. HAMBLEY, B.Sc.  
ERNEST B. EASSON, B.Com.

JAMES A. BLAY

BOYD L. GRAHAM

\*

Editor - BOYD L. GRAHAM

\*

SUBSCRIPTION: \$5.00 PER YEAR

Published by  
the Information Division of  
The Hydro-Electric Power Commission of Ontario  
620 University Avenue, Toronto.

Authorized as second class mail, Post Office  
Department, Ottawa

Material published in Ontario Hydro News may  
be reprinted without permission.  
Most photographs are obtainable on request.



Member of the Canadian  
Industrial Editors Association  
and the International Coun-  
cil of Industrial Editors.



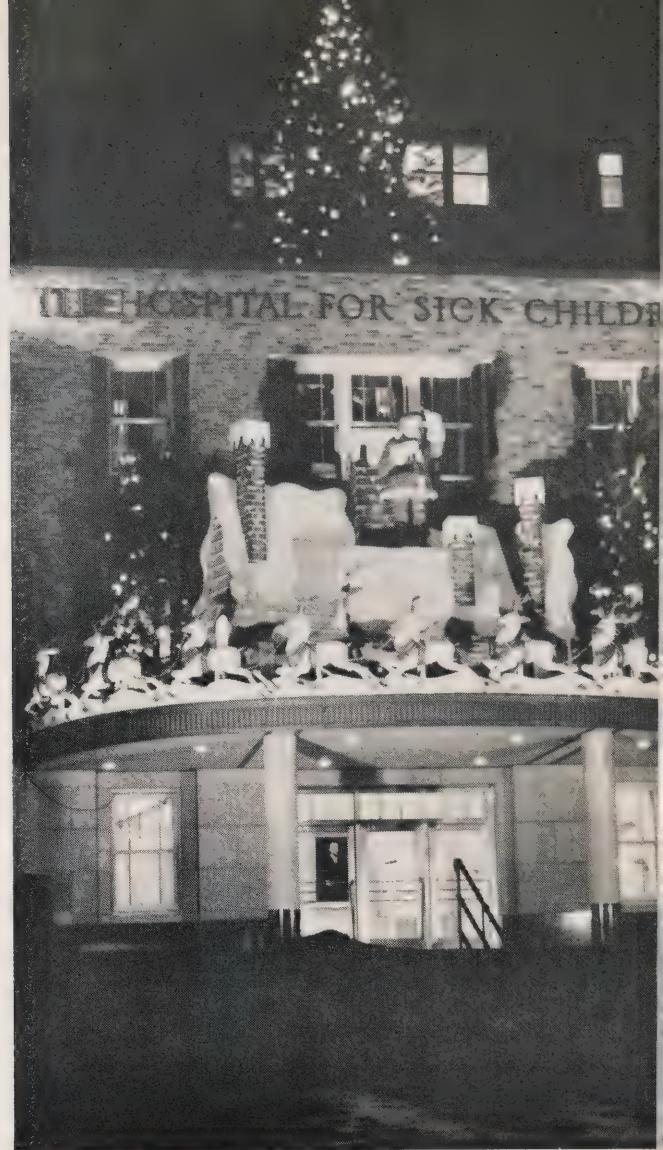
by Ron Kenyon

The miracle  
of Toronto's Hospital  
for Sick Children  
where

# THE DOORS SWING WIDE

TEN years ago it was thought remarkable when children were brought from Newfoundland to the Hospital for Sick Children in Toronto. This year, a youngster was sent all the way from Yugoslavia. Each year enhances the reputation of the big, busy hospital on University Avenue. With it grows the miracle of its story — a story well suited to Christmas time.

Today there is not much they cannot do at the "Sick Kids," the nickname for this famous 14-storey structure. They can stop a child's heart for an hour, repair damaged parts of it, and set it ticking again,



FIRST Hospital for Sick Children (sketch, left) was on Avenue St. (now the site of the Toronto General Hospital), not far from the location of the present building on University Avenue.

safely, like a watch. It is routine for them, when necessary, to drain all the blood from a baby and replace it with new. In serious head injuries, they lower a child's temperature so that the brain will need less oxygen, then operate directly on the cortex. Thousands of cleft lips and palates are repaired as neatly as a typist corrects an error on a page.

And the \$12½-million building has a hundred ancillary services you might not often see — a genetic clinic where the probabilities of inheriting disease can be worked out; a pathology lab, where the most minute examinations of the body's architecture can

be made; special dental and psychiatric services within the hospital, as well as research laboratories which spend more than half a million dollars a year.

Even in the smallest ways, this hospital is reassuring in its thoroughness. A child waiting in the huge foyer will find that the receptionist has a pile of books under her counter that she will lend him. A person in fear has only to look, and there, off the foyer, is a small chapel in which he can find solitude. The hospital has its own parking building, its gift shop with lots of toys, sandwich shops and modern lounges.

This whole structure, one of the principal medical centres of the country, has been made possible by the goodwill that flows toward it from thousands of people. Their generosity has been almost endless. Nor is it enough to explain this generosity away, as some people try to do, by saying: "People will give if children are concerned." Not all children's organizations enjoy the goodwill of the Hospital for Sick Children.

Every Christmas this hospital has made it known that money was needed, and every Christmas the public donates. A slot for gifts in the wall of its old building on College Street resulted in donations totalling some \$200 a year. When the new building was erected, no slot was provided at first, but by public demand one was later installed. And when the new hospital was opened, 80,000 people arrived to look it over — more than attended all the per-

formances of Camelot this year, and more than attend two Grey Cup games. When they found no collection boxes (hospital authorities felt they had asked for enough) they turned the hydrotherapy pool into a wishing well, and covered the bottom with money.

Down the years, many cots have been endowed in perpetuity. Not long ago a woman provided for a cot endowment in her will. A cot normally costs a few thousand dollars — but when this lady's estate was settled, it was found she had left the hospital more than \$400,000.

#### Dedicated Staff

But so many demands are made upon "Sick Kids" that, despite public generosity, the hospital has seldom, if ever, had enough money. Fortunately, it has always found dedicated people to work in it. Some of the greatest men in Canadian medicine have served it: Drs. Starr, Gallie, Robertson, Tisdall, Banting, Drake, Brown — all are names that read to medical men like an all-star hockey team to a sports enthusiast.

Yet the beginnings of this unique institution seem incredibly remote and strange. . . .

Back in 1875, Toronto was a muddy little town, full of taverns and dark corners. Streets were illuminated by gas, and the city had few schools, no water purification system, indifferent social services, and few regulations to protect children from unfair

(Continued on page 4)



WEARING a Christmas ribbon on her bandage, the happy child (left) belies the fact that she recently underwent a brain tumor operation at the "Sick Kids". Glen, in the centre photo, smiles gamely as he recovers from head injuries sustained in a fall. Young Franco, right, does a little artwork to pass the time while his fractured leg is mending. This patient was knocked down by a car.

labor practices. Surgeons still operated in top hats without washing their hands, and school authorities were worried because thousands of children roamed the streets like vagabonds. Only the poor went to hospital, because the care was so slight and the risk of infection so great that wealthy people preferred to be sick at home.

In that year, Mrs. S. F. McMaster, a Sunday School teacher, persuaded a group of women to form a Ladies' Committee to set up a hospital for children. It was in an 11-room house on Avenue Street, a small thoroughfare running parallel to College Street on which the Toronto General Hospital now stands. It wasn't far from the present site of the Hospital for Sick Children, though University Avenue was called Century Street in those days.

Although the rent was only \$320 a year, the Ladies' Committee had trouble financially right at the start. The first winter the place was cold because there was not enough money for fuel.

Nor did the suffering public seem much interested. The women walked around the poor districts urging that sick and dying children be brought to the hospital. But parents refused.

The first patient was called Maggie. Three years old, she had been scalded by falling into a tub of hot water. Fortunately, Maggie recovered and helped establish the hospital's reputation.

But parents were still unwilling to trust children to Mrs. McMaster and her women. A boy called Teddy arrived one winter day, nearly naked and obviously dying. His mother and father followed, and insisted on taking him away. Later, a nurse visited the home and found him at the point of death in a freezing room, lying in the corner on a bed of straw and shavings.

Times remained difficult for the hospital. It moved repeatedly, always into a slightly bigger house, but never with adequate facilities. It is recorded that, on one occasion, when the board could not afford to pipe water into the building (they had been obtaining it from a hydrant at the curb), a doctor put up the money.

On another occasion, Mrs. McMaster wrote a delightful letter, which is still extant, to a furnace company, explaining how the hospital did business. It seldom had any money when it ordered goods, she said, but the board prayed. So far, the money had always become available. The hospital needed a furnace, she said, but had no money. Would the furnace company install the furnace and trust to their prayers? Back came a letter, promptly and gravely accepting the arrangement. The furnace would be installed.

In 1881 a sad event made possible all the dreams of the Ladies' Committee. In that year, on the same day, two little girls died of scarlet fever. One was the year-old daughter of John Ross Robertson, called

TECHNICIANS PREPARE a small patient for an examination by the multiplane fluoroscope, one of three in the hospital.



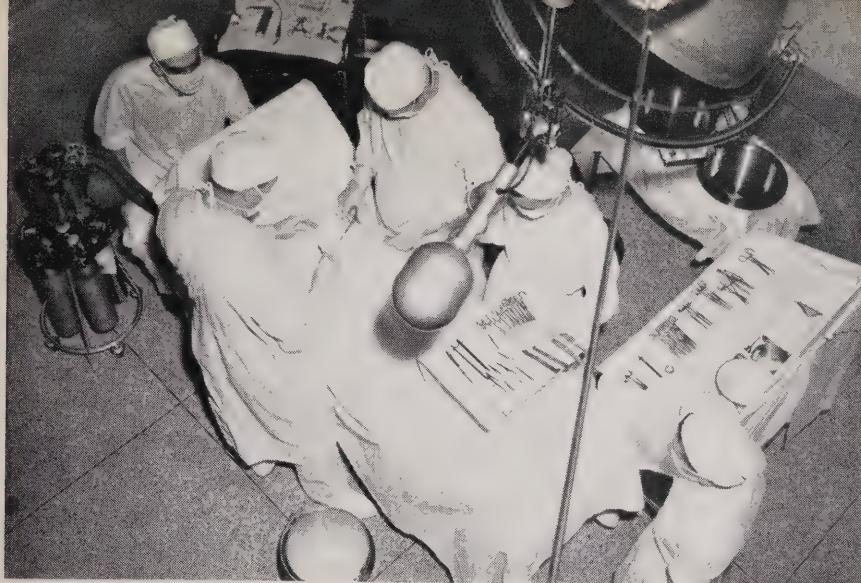
Goldie, and the other his small niece. They were buried on a bleak March day.

Robertson was a dour and terrifying Scot, given to strong language. As a newspaperman, he had covered the Riel Rebellion personally. Just about the time Mrs. McMaster and her gentle colleagues were setting up their hospital, Robertson had been establishing his *Evening Telegram* in a much more robust and aggressive manner.

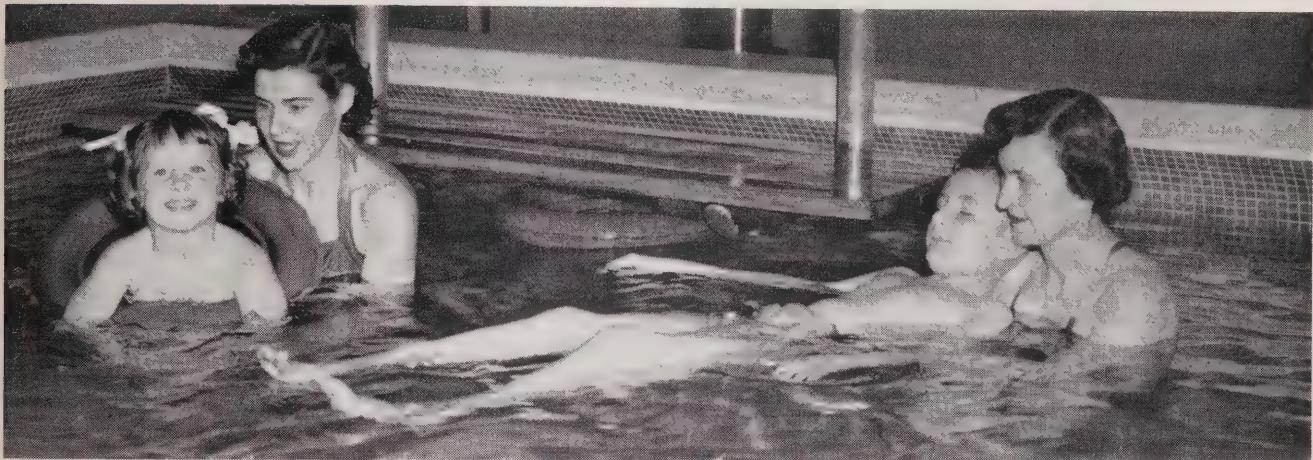
Not long after the death of his daughter, a group met at Robertson's home one Sunday evening to talk about Toronto charities, and the name of the little hospital cropped up. Robertson's wife heard it and talked her husband into visiting it.

#### Great Benefactor

And so Robertson, then about 40, climbed the rickety stairs to the hospital ward where a few small patients lay in a fog of carbolic acid fumes. Almost at once he gave bedsteads, mattresses, blankets and



SKILLED doctors and nurses "at work" in one of the hospital's major operating rooms.



TWO YOUNG PATIENTS undergo treatment in the physiotherapy pool, located on the service floor of the building. This form of therapy is important in rehabilitation work.

linen. And from then on his largesse never ended. Even upon his death it was found he had left his fortune and his newspaper to the Hospital. It has been estimated that this one man gave the Hospital more than \$10,000,000 altogether.

In 1914, too, there appeared a man who was to do much to make the hospital internationally famous. His name was Dr. Alan Brown, who, at that time had the distinction of being Toronto's first pediatrician.

Born in Ontario, he had trained in New York and Europe, but when he applied for a job at Sick Children's he was turned down. The conservative doctors—none of them pediatricians—wanted no part of this young upstart with his unheard-of specialty.

But John Ross Robertson's influence intervened. His nephew, Dr. Bruce Robertson, was on the staff of the Hospital. In fact, the younger Robertson was a notable doctor in his own right. He had performed the first blood transfusion on a baby while

at the Rockefeller Institute, working under the great Dr. Alexis Carrel. Later, during World War I, he was to introduce the technique of blood transfusion to the British Army.

When Brown applied for the job, Dr. Robertson realized his calibre. He couldn't overcome his hospital colleagues' objections, but he helped Brown obtain hospital infant mortality figures. These showed that the infant death rate was a terrifying 155 per 1,000 admissions. Brown took the figures to John Ross Robertson, the chairman of the board, and offered to cut the figure in half in a year. Robertson took the offer, and within a few years—the promise more than made good—Brown was appointed physician-in-chief, a title he held for 36 years. In all that time he never drew a cent of pay from the hospital, relying on his large, private practice for income.

Brown, who died only a few months ago, was a  
(Continued on page 6)



THE LATE DR. ALAN BROWN, one of Canada's best-known pediatricians and physician-in-chief at Sick Children's Hospital for some 36 years.

man of many facets. Doctors thought of him as a brilliant diagnostician; the hospital board saw him as a medical statesman; parents were scared to death of him, and children found him amusing.

He had a Puckish wit, a Napoleonic confidence, and a relentlessness in the face of inefficiency or carelessness that ruined some doctors for good. His manner often earned him the dislike of parents who should have known better. He considered only his patients, the children, and he got along well with almost all of them.

#### Developed Pablum

With Dr. F. F. Tisdall and Dr. T. G. H. Drake he developed Pablum, the now-universal infant-feeding formula. This formula was patented, but the doctors assigned large amounts of the royalties to set up a research institute. By so doing they made possible one of the most important research centres in Canada.

Many of the problems no one else could solve came to the hospital. Children suffering from unfamiliar diseases and impossible anomalies of birth, complicated questions pertaining to infant feeding and nutrition — these and other tasks fell to "Sick Kids." Even the federal and provincial governments acknowledged the hospital by asking its advice before moving a muscle in the direction of pediatrics.

During the great polio epidemic of 1937, iron lungs were impossible to obtain. The hospital superintendent, Joseph Bower, who had been an engineer

in his younger days, turned to in the hospital's machine shops and manufactured 32 iron lungs within a few weeks. These, together with 3,000 splints made at the hospital, were used all over Canada.

The very next year Brown took action to ensure milk pasteurization in Ontario. The government had hesitated to introduce the measure, so Brown talked the Prime Minister into visiting the Hospital. Once inside, Premier Mitchell Hepburn found himself being shown children with bone tuberculosis caused by drinking milk from diseased cows. Legislation was introduced at once, and Ontario is still the largest political unit in the world to have a comprehensive plan for pasteurization on a compulsory basis.

Brown's laboratories paid off in preventing disease in specific locations, too. One year, routine examinations of diseased tonsils removed from small patients paid off.

Eight were found with tubercular tonsils. Further checking revealed that all eight came from the same town, and that all drank milk from the same dairy. Prompt action prevented further cases.

During World War II, Canadian prisoner-of-war parcels were considered the best of all that the various nations sent overseas. They were developed by doctors of the Hospital for Sick Children, who had stepped out of their usual role.

When the people of Newfoundland found themselves eating reinforced bread some years ago to correct deficiency diseases, they had the "Sick Kids" doctors to thank for it. Reinforced bread was later introduced across the country.

But the hospital's efforts are directed to the patients who need help. And today, hospital personnel note a remarkable phenomenon: adults are coming back to thank the hospital for gifts of life and health in childhood.

One child, called Elsie, was so badly burned that home-town doctors said she would never be able to marry or have children. Her parents brought her to the Toronto centre. Years later, she came back, happily married, to show off two fine children.

Another woman used to place a card in the *Dunnville Chronicle* as a mark of gratitude to the Hospital for saving her daughter's life. "Her condition today is the result of the surgical skill of the doctors and the patient care of the nurses of the Hospital for Sick Children, and to these Mrs. A. sends her grateful thanks."

And in many countries of the world, an astonishing number of people, who have come to know Toronto's Hospital for Sick Children, gratefully re-echo the words of Mrs. McMaster, the founder, when she opened one of the six buildings the hospital has occupied since 1875: "May these doors ever swing wide at the call of every suffering child." ■

# The Saga of Santa



In his 1600 years on earth . . . Santa Claus has grown a long, white beard, moved from a small village in Asia Minor to a toy factory at the North Pole, and changed from flowing robes into a red and white furry suit. He's gotten shorter, rounder, and much, much merrier.

The original Santa Claus was born in Patras, Asia Minor. Young Nicholas — instead of being interested in games and play — devoted himself to the study of the Scriptures. Because of his remarkable boyhood, he was later accepted as the patron saint of children.

Being of very rich parents, Nicholas was able to share his wealth with others. He found particular joy in providing gifts for children, or the dowry necessary to start a needy young woman on the road to a happy marriage. His travels brought him to the large City of Myra, where he was consecrated Archbishop.

St. Nicholas died on December 6, about 341 A.D. . . . but not before he had saved a ship from a threatening storm with his prayer, found a way to feed all the people of Myra during a famine,

and deposited three bags of gold upon the doorstep of a poor merchant.

Today, there is hardly a sea-coast city in any predominantly Catholic country that does not have a chapel dedicated to him. He is the patron saint of bankers, pawnbrokers, maidens, children, mariners, scholars . . . and even thieves!

Europe has always celebrated St. Nicholas Day on December 6, and this is the traditional day of gift-giving. But, in the New World, St. Nicholas gave up his own day and became a well-loved part of the Christmas celebration.

Dutch settlers brought Santa Nikalaus to New Amsterdam (now New York). At first he appeared to look like Father Knickerbocker. History researchers tell us that Thomas Nast, famous cartoonist, periodically dressed his Santas in suits of red, white and blue for patriotism's sake.

Washington Irving described the merry gift-giver as a tubby little fellow with a jolly manner who sped through the air on a reindeer sleigh.

From this interpretation came

the basis for Clement Clark Moore's beloved "A Visit From St. Nicholas." Dr. Moore, professor at a New York theological seminary, composed the poem for his children, who first heard it on Christmas Eve, 1822.

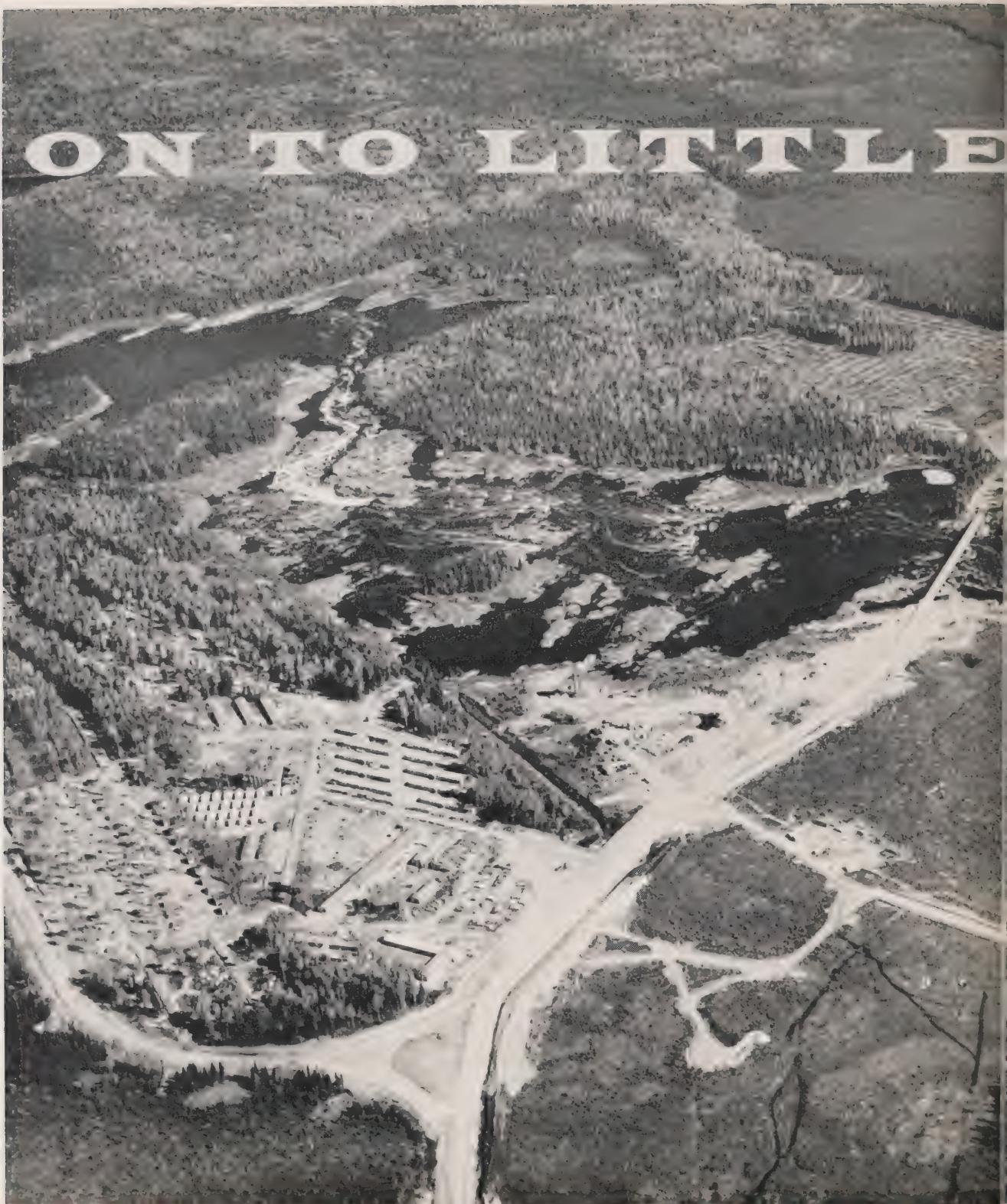
*"He was dressed all in furs from his head to his foot, and his clothes were all tarnished with ashes and soot . . . he was chubby and plump, a right jolly old elf, and I laughed when I saw him in spite of myself."*

This was how Dr. Moore saw Santa Claus, and, thanks to his vivid characterization, this is how children all over North America have pictured him ever since.

The laughing man with the big heart adds to the joy of Christmas for children everywhere . . . but what happens to the child who huddles on the stairway watching for Santa till his eyelids drop? Or the child who doesn't see footprints in the snow on Christmas morning? Or the child who has been told, there is no Santa Claus?

For him, Christmas becomes a sad time. A little girl named Virginia once wrote to a newspaper editor, asking him to help solve

*(Continued on page 26)*



AERIAL VIEW of the Little Long site shows the access road and Bailey Bridge spanning the Mattagami River (centre). In the left foreground are the camp colony and other project buildings.



## Task force building modern community at Hydro's new Mattagami River site

by Joan Allen

**T**WENTIETH century pioneers are penetrating Ontario's northland, not to trap or mine, but to harness the power potential of the rivers flowing into James Bay.

More than 600 men have reached Little Long Rapids on the Mattagami River, 42 miles north of Kapuskasing. In contrast to their counterparts of 300 years ago, however, these modern Hydro pioneers are not dotting the cleared land with one-roomed log cabins. Instead, they're building a miniature town, with a recreation hall, a four-room school, a supermarket, an office building, rows of neat houses as well as staff quarters for single employees.

A road has been built from the Spruce Falls Power and Paper Company's railway to the campsite, and a spur railway line running parallel to the road is nearly completed.

Nor is the Little Long project the only Hydro oasis of civilization in the bushland. Just 27 air miles to the northeast on the Abitibi River, the construction camp for Otter Rapids Generating Station boasts more than 1,000 inhabitants. And 20 miles south of Otter Rapids is the Abitibi Canyon colony, used first as a construction camp, and now as a home for the operating staff and their families.

As close as the residents of Little Long are to their Hydro neighbors,

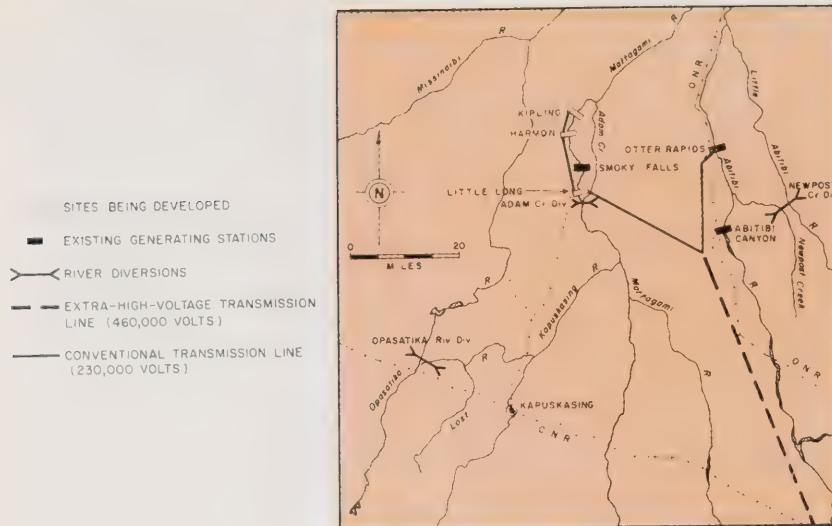
however, they can't drop in for tea of an afternoon. There are no connecting roads, and 200 miles of railway line separate Little Long and the other two colonies.

Little Long is the first of three Mattagami River sites scheduled for development in the next few years. As construction at Little Long nears completion, work will get underway at Harmon G.S., 13 miles downstream at Upper Long Rapids and at Kipling G.S., three miles further downstream at Lower Long Rapids. According to the overlapping work schedules, Little Long will be in operation in 1963, Harmon in 1965, and Kipling in 1966.

Power from these three stations on the Mattagami and from Otter Rapids on the Abitibi River—an estimated total capacity of 528,000 kilowatts—will be transmitted at 230,000 volts to a new terminal station near the existing Abitibi Canyon plant. The new transformer station, to be named Pinard, is scheduled for completion in 1963.

The pioneering spirit of Hydro is not limited to the northern construction camps, however. While the three Mattagami stations are under construction, the Commission will build the first major 460,000-volt transmission line in North America. The initial phase

*(Continued on page 10)*



LITTLE LONG project is located on the Mattagami River, some 42 miles north of Kapuskasing.

of the extra-high-voltage system, from Pinard T.S. 230 miles south to Sudbury, is scheduled for service in 1963, although it will operate at 230,000 volts until the second Mattagami station starts up in 1965.

In all, some 450 miles of line will be constructed as far south as the Barrie area to form the EHV system, which will integrate the output of these remote stations into Hydro's combined Northeastern and Southern Ontario systems. Eventually, the line will extend as far as Toronto.

#### Substantial Saving

The EHV system, according to present estimates, will save Hydro a substantial amount because it provides power-carrying capacity for a given conductor size about four times that of 230,000-volt transmission, the highest voltage now used in Ontario.

This six-year development program is already being translated into reality as Otter Rapids G.S. and the camp at the Little Long project near completion.

Clearing some 12,000 acres of bush country was one of the first jobs which work crews faced at

Little Long. To date, slashers have cleared along the five-mile line of dyke which will be built to contain the headpond, and access roads along the entire length of the dyke have been completed so that construction can start early next spring.

About a million cubic yards of soil must be removed from the dyke area to reach solid footing, and more than three times that amount of fill will be used to build the dyke. When completed, it will have a top surface 30 feet wide, which will be used as a road. The dyke (to be built by a contracting firm) will extend two miles west of the river and about three miles east.

One of the first items on the construction schedule will be the Adam Creek diversion and control works forming part of the main dam and connected to the powerhouse by 1½ miles of dyke. When the structure is complete, it will be possible to divert water from the Mattagami River down Adam Creek, by-passing the three Hydro generating stations and Smoky Falls G.S., which is owned and operated by the Spruce Falls Pulp

(Continued on page 17)



THIS 622-foot-long Bailey Bridge, spanning the Mattagami River upstream from the Little Long dam site, is an important link in the new 30-mile access road to the nearest railway point at Smoky Falls generating plant.



WELL-STOCKED shelves in the biggest commissariat ever built by the Commission of Little Long housewives most of the advantages of shopping in an urban supermarket.



THIS NEW SCHOOL at Little Long includes four classrooms where children of project employees will receive their elementary education. Two more rooms will be added later.



MARRIED EMPLOYEES and their families will live in these new-type prefabricated houses, which are transported in two sections and joined to make an attractive five-room home.

There a

Conservation  
Arti



any hazards in this business of producing a

# CHRISTMAS TREE CROP

**"Nothing but a new German toy!"**

THE words are those of Charles Dickens. The year was 1850. And the great novelist was giving his opinion about a Christmas tree, the "toy" which had been introduced into England nine years earlier when Prince Albert of Saxony, the consort of Queen Victoria, had a tree set up at Windsor Castle.

It would be an understatement to say that Dickens' dismissal of the Christmas tree as a passing fad marked him as a poor prophet. Today, the Christmas tree is an accepted part of the annual celebration of Yuletide throughout the Anglo-Saxon world. And the custom has spread even to the tropics and subtropics, where trees shipped

by Gordon Murphy

ONTARIO'S Yule Tree Farmers' Association regularly sponsors field days devoted to the art of grading trees. Here experts examine a Scotch pine on a farm near Orangeville.



from Canada are bringing "a touch of the North" to the Christmas season in such countries as Puerto Rico, Mexico, Trinidad and Jamaica.

The origin of the Christmas tree is obscure. One legend has it that the first tree was of German origin, dating from St. Boniface, an English missionary to Germany in the 8th Century. Another legend attributes the origin to the Christ Child Himself. Still another gives the credit to Martin Luther, who is also credited by some with introducing the first tree lighted with candles.

Separating legend from fact where the origin of the Christmas tree is concerned is all but impossible. It now appears certain, however, that the original home of the tree, as we know it today, was on the left bank of the Upper Rhine in Germany. The first mention of the tree in German Alsace dates from 1521. The first mention of candles on a Christmas tree was recorded in the 17th Century.

By the beginning of the 19th Century, the Christmas tree had grown into a general German custom, and was also being adopted by the Slavic peoples of Eastern Europe. The nostalgic attachment for the Christmas tree was reflected by both royalty and the common people, who took the custom with them wherever they went. Thus it was that the tree was introduced to the people of France in 1837, when Princess Helen, of Mecklenburg, brought it to Paris after her marriage to

the Duke of Orleans. Four years later, as we have seen, the custom found its way to Windsor Castle.

Dickens' "toy" was on the move!

The Christmas tree arrived in North America around the beginning of the 18th Century as the cherished companion of German immigrants, and there are accounts of Hessian soldiers decorating their beloved trees during the Revolutionary War. The custom soon spread throughout the United States, and flourished in New England even in the days when the observance of Christmas was forbidden.

One of the big factors in the spread of the custom in North America was the already-mentioned Prince Albert, who, when he set up that first tree at Windsor Castle, set in motion forces which influenced the adoption of the Christmas tree by Americans of English descent and, ultimately, its adoption by Canadians. From New England, the custom spread into Quebec, and from Quebec throughout the whole of Canada.

In the United States, more than 45 million Christmas trees are used annually, and in Canada close to five million—one for every household in the country. Of the Canadian total, more than one-third are accounted for by the people of Ontario.

The Christmas tree industry is now big business in Canada, but, prior to the end of World War II, the industry was largely dependent on trees growing in a wild state.

*(Continued on page 14)*

Those were also the days—now, for the most part gone—when the head of the family performed the annual ritual of entering a nearby patch of woods, axe on shoulder, to emerge with something which, if not symmetrical, was at least green. Today, such an adventurer might be greeted by anything ranging from a charge of buckshot from a myopic hunter to the threat of arrest by an irate farmer.

#### Plantation System

Speaking of farmers, it was largely their realization that they could use a Christmas tree crop to yield a handsome return from land not suited to general farming that led to the introduction of the "Christmas tree farm" or plantation system in Ontario and other parts of Canada. Production has registered remarkable gains every year since 1945. The industry is now in the multi-million dollar class—so much so that the Canadian Government regards Christmas trees as a very important seasonal industry.

Most of the trees sold in Ontario, and those exported from Ontario to the United States each year, are provided primarily by the Ontario Department of Lands and Forests through its system of tree nurseries. More than 30 million seedlings are shipped from these nurseries every year, including more than five million Scotch pines, a tree which has been a Christmas favorite in Ontario for some years, and which is becoming increasingly popular in the United States.

The United States accounts for more than 90 per cent of Canada's export of more than 12 million Christmas trees. And the fact that a total of 45 million is consumed in the United States every year is acting as a spur to Canadian producers to add to the quality as well as the quantity of their product. Plantation-grown trees have obtained a significant foothold in the market, and the increase in

areas under plantation is expected to continue—expected because it is basically tied in with the growth in population, the rise in the North American standard of living, and the trend toward specialization in the economy as a whole.

With the coming of the plantations, the Christmas tree industry has evolved from a haphazard, seasonal affair to a highly competitive, year-around business requiring substantial invested capital. Quality control has become a necessity following the recent establishment by the United States of a system of grading the trees. Canadian producers are also working toward the establishment of a national grading system, a development which will eventually enable people to purchase their Christmas trees at the corner lot by grade rather than by guess and grab.

Grading will depend on such features as balance, density, taper and foliage—qualities which producers have discovered the consumer is willing to pay for, if for nothing else than to avoid the immediate pre-Christmas tussle with deformed trunks, stubborn branches and other assorted trials sent to test the spirit of the season.

Organization of the Christmas tree industry on an international basis took a big step forward last August when a three-day convention of producers was held at Purdue University. The meeting was attended by 14 representatives of the 95-member Yule Tree Farmers' Association of Ontario, along with representatives of an 18-state national association in the United States, where, according to H. R. Drysdale, secretary of the Ontario association, Christmas tree farming is also on the upsurge.

With the increasing demand (and profit in a good year running at about 50 cents per tree), a considerable number of operators have been attracted to the industry in recent years, some to their sorrow. Full-time professionals, of whom there are about 1,700 in Canada,



FORESTER Ridley Groves demonstrates pine pruning to George Mannerow, Green Valley Conservation Authority



will tell you that the raising of Christmas trees requires knowledge, skill, hard work and a large measure of luck. Seedlings are cheap—the Ontario Government supplies Scotch pine at \$14 a thousand—but the difference between a seedling and a mature tree covers a span from eight to nine years, and involves an investment per tree of 50 cents.

#### Midnight Raids

Add to the time element and the investment, the work of plowing, planting, pruning, shaping and spraying. Combine this with

the hazards of insects, disease, weather, fire and the vagaries of mice and men, and there emerges a possible prescription for a nervous breakdown; or, for the unwary, financial ruin. Mice get into the act by gnawing at the bark under the snow. Men enter the picture in the form of organized gangs of thieves who, complete with trucks and saws, swoop down on plantations in midnight raids every November.

Strong, indeed, is the faith of the plantation owner who leaves his crop unguarded at harvest time! Ask a man who knows, such as the

Quebec farmer who lost his entire crop a few years ago when he went to town for a few days of Christmas shopping; or the Ontario producer who, that same year, awakened one fine harvest morning to find that, during the night, raiders had made off with 3,000 of his best trees. While the fact that the raiders reaped a total of \$15,000 for the 3,000 trees across the New York State line might be taken as a tribute to the excellence of the product, it was of no financial solace to the farmer. If he is still in business, he now probably

*(Continued on page 16)*

PLANTATIONS WITH ANNUAL HARVESTS UP TO 30,000 TREES ARE NOT UNCOMMON IN CANADA.





POPULARITY of the Scotch pine is growing rapidly in Canada and the United States.



SOME 12 MILLION TREES are cut annually for the export trade. They are harvested in September and kept in refrigerated warehouses until December. Trees for domestic market are cut during October and November.

mounts armed guards on his property at harvest time.

Topiary, which is defined as the art of shaping trees, is an important factor in the care and raising of the Christmas product. Pruning begins in the second year, and continues each year until cutting, the object being to help the tree develop into a perfect bushy cone. How successful the farmer has been is determined by agents, who appear each September, checkbook in hand, looking for the best trees available. Disposal of up to 30,000 trees in a single sale is not uncommon. The trees are then cut, fed into a special binding machine—stump first so that the branches fold upward—and shipped off to giant refrigerated warehouses, where they are kept in perfect condition until Christmas.

#### Advice to the Buyer

Perfect condition? Again, ask the man who knows.

The first rule in selecting a tree is to make sure that the needles are not brittle. If they snap instead of bend in the fingers, let the buyer beware: the tree is old. Watch also for yellowing, an indication that the tree has lacked sufficient moisture. And beware of too many brown or dead branches, as this is generally evidence that the tree has played host to the discriminating appetites of such insects as midges, caterpillars, budworms, aphids and weevils.

For the information of those partial to Scotch pine, the word is that a tree of this species should stay fresh for about six weeks without refrigeration. The Scotch pine was originally brought to Canada from Europe, and now rivals the balsam fir, which, because of its needle-holding properties, has long led the Christmas tree list in pop-

ularity. Balsam fir, in addition, is not suitable for plantation growing, where Scotch pine is. This fact has been convincingly demonstrated in Ontario, where it now accounts for more than half of the Province's exports and much of its domestic consumption.

Included in the export to the United States are the spectacular giants which annually grace such showplaces as New York's Rockefeller Centre and occupy places of honor in Santa Claus parades. In passing, it might be mentioned that the custom of setting up lighted Christmas trees in public places originated in Boston in 1912. The idea spread quickly

through the United States and Canada, and, after World War I, was taken up in Europe, where the custom is now general.

Development of the Christmas tree custom from the "toy" of Dickens to a multi-million dollar commercial enterprise is not the real story of the Christmas tree, however; for, considering the historical facts, the meaning and message of the Christmas tree are still of great significance.

Today, wherever peace and goodwill prevail, the Christmas tree also prevails, its message of amity shining forth with a brilliance accumulated down through the centuries. ■



### FROM SEEDLINGS TO SHAVINGS

THE annual Christmas tree disposal problems for most municipal works departments

has been solved by a self-powered machine which is hauled behind a truck and is capable of grinding up 700 trees a day into match-size splinters. The old method was to burn the discarded trees at a dump, but not more than 75 trees a day could be disposed of, and the burning added to the air pollution problems. The fact that the grindings make the finest of flower-bed mulch makes it possible for a machine to pay for itself in a matter of months through the sale of the product. Conservation also enters the picture in that what formerly went up in irritating smoke now goes back into the earth whence it came. ■

### ON TO LITTLE LONG

(Continued from page 10)

and Paper Company. Adam Creek has its source near the Mattagami River, and flows into the river some 20 miles downstream.

Remote-controlled from Abitibi Canyon G.S., the diversion will regulate the levels of the Mattagami River during flood periods, and will greatly reduce the dewatering hazards during station construction. The control structure will consist of eight sluices 40 feet wide, with rollways designed for partial gate operation.

Instead of the customary integral powerhouse and dam in a single structure, the dam at Little Long will straddle the river, and the separate powerhouse will be located slightly to the east. A deep tailrace will be excavated to carry water back into the river.

The main dam will be a concrete structure built in three stages behind cofferdams. It will incorporate two sluices, similar to those in the diversion structure, provision for two future units, a gravity structure and wing walls at each end, as well as 20-foot bulkhead blocks between the sluiceways.

The powerhouse itself will contain two fixed-blade propeller-type turbines with steel scroll cases. The units will operate on a 91-foot head and will have a combined capacity of 114,000 kilowatts.

When construction is complete, work forces will be able to chalk up the excavation of 2,240,000 cubic yards of earth and 650,000 cubic yards of rock, and the placing of 220,000 cubic yards of concrete.

The Hydro pioneers will not abandon the Mattagami River, nor will the camp colony disappear when Little Long G.S. goes into operation. It will be used to house construction personnel engaged in the work of harnessing the Mattagami at the Harmon and Kipling sites. ■



# TEMPTING FATE

Inspection authorities alarmed  
at increasing volume  
of unapproved appliances  
being sold in Ontario

by Don Carmichael



Most rational people believe it is unwise to tempt fate by doing something dangerous.

Yet many unsuspecting Ontario residents are tempting fate every day by buying or using unapproved electrical appliances.

These appliances could be endangering their lives and safety, because a faulty appliance can be just as lethal as a loaded revolver.

Take the case of a young, Western Ontario housewife.

While vacuuming her apartment, she reached out with her free hand and turned on a lamp.

Unfortunately, both the vacuum cleaner and the lamp were defec-

tive and the frames alive. She was electrocuted.

On investigation, it was found that one of the appliances had not been approved and the other had been poorly repaired several times.

Ontario Hydro, the sole electrical inspection authority in the province, employs 173 men to help prevent tragedies such as this.

But an estimated 10 per cent of the electrical equipment being sold in Ontario has not received approval, says Ontario Hydro's Chief Electrical Inspector, Keith Bellamy.

Not all unapproved appliances are potentially dangerous. "But there is more likelihood that they

will be," warns Mr. Bellamy.

Trying to prevent the sale of unapproved appliances in Ontario has become a very difficult task.

## Imported Appliances

It has been complicated of late by the tremendous increase in the number of appliances imported into the province. These unapproved appliances are admitted by customs as long as the duty is paid, and Ontario Hydro is powerless to stop it.

Even if the inspectors were RCMP-trained and super sleuths like the fictional Sherlock Holmes, they could not ferret out all the unapproved appliances.

There are thousands of appliance dealers, hardware, grocery and drug stores selling electrical equipment in Ontario.

Visiting them all would be an unending, revolving-door job. The inspectors wouldn't have time to attend to other equally-important duties, such as checking installations to see they meet certain minimum safety standards, and that approved equipment is properly used.

The advertising, display, sale or use of unapproved appliances in Ontario is prohibited by regulations made under The Power Commission Act, and the seal of the Canadian Standards' Association, Hydro's safety testing and approval agency, must be on all electrical goods.

Yet the flouting of the law, intentional or not, goes on.

Indicative of the tremendous volume of unapproved appliances is the fact 43,000 Ontario Hydro special acceptance labels were

placed on imported equipment from the middle of 1958 to the middle of 1959. These labels are applied to equipment which has not received C.S.A. approval, but which is considered by Hydro's Electrical Inspection Department to meet the existing requirements. In some cases, modifications must be made in certain electrical items before they qualify for acceptance.

Typical are the following cases:

Some 2,000 substandard fans were shipped to one of the chain food markets. They were eventually covered by special inspection, and the required alterations made.

One of the chain dime stores imported 5,000 portable table lamps with various faults, including 250-watt sockets, undersize cords, lack of bushings, loose connections and sharp edges.

Faulty construction or poor design, Mr. Bellamy explains, results in potentials on the framework. "If you touch the appliance

and a water tap or any other grounded metal at the same time, you would be the victim of a lethal shock."

Poor design can also lead to over-heating. If the heat is not removed safely there is a fire hazard.

Mr. Bellamy emphasizes that the majority of appliance dealers are co-operative and obey the regulations. They even go so far as to point out others who are evading the law.

But unapproved appliances which are distributed directly by an importer or are brought in by individuals "seldom come to our attention."

A case in point was the recent appearance on the market of a number of unapproved Japanese appliances.

The Electrical Inspection Department suspected they were coming into Ontario through an out-of-the-province distributor, but couldn't track the source down.

(Continued on page 26)

MEETING IN TORONTO during November this year, chief electrical inspectors representing several Canadian provinces and major cities, issued a formal statement expressing concern over the increasing volume of unapproved appliances and equipment being imported into Canada. The statement urged action to stop the import and sale of electrical items which have not been safety-tested and approved by the Canadian Standards Association.





ATTRACTIVE DOORWAY DECORATION is simple with this bright bow of red aluminum sheet placed slightly above the centre. Frame the entrance with evergreens sprinkled liberally with lights. Lighted stars and a floodlight aimed at the doorway provided added effect.



THIS TREE is outlined by wooden strips with strings of outdoor lights taped to the frame. The frame and electric cord are wrapped with foil. Then tack ropes of tinsel back and forth across the tree and hang ornaments.



EYE-CATCHING PATTERNS of lights or cut-out figures can be placed on the side of a home. Attractive tree is formed by strings of outdoor lights with new-type round bulbs in the centre. Garlands are made of 'lighted ice.'

DR



UNUSUAL WINDOW DECORATION made from pasteboard which was cut out, leaving open strips that show up as black lines. Colored translucent material covers the spaces that form the tree and the sky (top). Back-lighting (not too close to the material) completes display.



# PLANNING OF A **LIGHT** CHRISTMAS?

MANY proud home-owners want to send their neighbors a Christmas card — in lights, outdoor lights! And . . . they don't have to be a master electrician or a lighting authority to get professional results.

The experts say some simple, commonsense guides, plus imagination, are the best tools for a successful holiday lighting display—one that's fun to see and fun to make.

For instance, if a family is the eat-and-play outdoors type, they may already be nicely equipped with covered electrical outlets outside the home, in the garden, etc. These outlets are the most convenient way to power Christmas lights. Because of this, and because they help perform other electrical outdoor miracles all year round—for outdoor cooking, garden lighting, electrical lawn mowing and a host of other duties—the homeowner may even wish to consider installing them in time for Christmas.

If a person is sold on the idea

of permanent outdoor sockets, and hasn't got them yet—authorities strongly urge hiring an electrician. This wiring job is not in the "do-it-yourself" category.

For the man who has garage or porch lighting, or electric post lanterns on the lawn, it is easy to operate Christmas lights from any of these sockets.

One other tip for planning lights: The normal standard domestic lighting circuit is designed to provide a maximum wattage of 1,500 watts, controlled by a 15-ampere fuse or circuit-breaker, thus ensuring reasonable protection for the flexible cords which are plugged into the circuit. Before plugging in extra cords for Christmas lights, subtract the wattage of any electrical items which are already operating on a circuit, and the difference should be the maximum which can be used for outdoor lights on that circuit.

There's no need to fear damage from snow or rain when *outdoor*, weatherproof equipment — lights, extensions, etc., are used.

Electrical living outdoors has grown so in popularity that many stores today carry outdoor wiring. One tip—when your Christmas lights are plugged into an extension cord, wrap the joint in a plastic film . . . then tie or tape the wrapper to each cord—this will lessen the chance of moisture affecting the circuit.

#### Varied Selection

Christmas lights are available in a wide array from colored "snowball" bulbs to twinkling lights to the familiar flame-shaped outdoor string sets . . . and there's a growing selection of outdoor lighted figures—candles, Santas, etc.

Don't overlook floodlamps! They come in many colors, just right for Christmas. And they're so simple to use that breathtaking results can be achieved with a real ease. Fixtures for floodlights come ready to set on the ground, hang from a wall or some other device. They'll do double duty, too, because floodlights can be used in the

*(Continued on page 25)*

ONTARIO HYDRO

# SCHOLARSHIPS

ENCOURAGING enrollment and outstanding achievement in professional engineering and other technical courses, Ontario Hydro presented 12 scholarships totalling \$3,300 again this year to students studying at three Ontario universities and three other educational institutions.

The scholarship program, inaugurated in 1952, is a tribute to distinguished graduates in fields relating to the operation of the Commission.

At the Ryerson Institute of Technology, Toronto, where Ontario Hydro presents a \$200 scholarship in the second year of a three-year course in the Institute's School of Mechanical and Industrial Technology, the winner this year was Gordon Johnson, Claremont.

A \$300 scholarship, based on academic standing and need, was presented at Port Arthur's Lakehead College of Arts, Science and Technology in support of the school's applied science course. This year's winner was Michael F. Cowan, 76 Rupert St., Port Arthur.

At Queen's University, Kingston, the University of Western Ontario,

and at the University of Toronto, three scholarships of \$300 each were awarded, based on the final standings for the first, second and third year's work of students taking any engineering course related to the Commission's operations.

At Queen's University, the Hydro scholarships were awarded to: First year David B. Steele, 121 Alexandra Blvd., Toronto (Applied

Science); Second year—Ian F. Blake, 185 King Edward Ave., Ottawa (Engineering Physics); Third year—Kai Fong Lee, Lynn Lake, Manitoba (Electrical Engineering).

This year's winners at the University of Toronto were: First year



Ian F. Blake



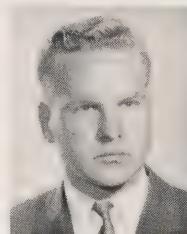
K. F. Lee

—M. A. Lusis, 50 Dewson St., Toronto (Chemical Engineering); Second year—K. Lum, 185 Sherborne St., Toronto (Electrical Engineering); and Third year—James Lowry, 285 Lee Ave., Toronto (Mechanical Engineering).

The 1960 University of Western Ontario winners were: First year—Robert Janssens, 209 Margaret St., Wallaceburg; Second year—Rusins Albertins, 378 Hill St., London; Third year—John P. Duffy, R.R. 2, Glanworth, Ontario.



Robert Janssens



Rusins Albertins

The \$100 scholarship presented to the most worthy cadet at the Royal Military College of Canada, Kingston, entering his fourth year of the electrical engineering course, has been awarded to Officer Cadet V. R. Thomas, Fort Saskatchewan, Alberta.

## Ontario Hydro engineer, named safety executive

Warren L. Clifton, safety and fire engineer of Ontario Hydro's Accident Prevention Division, has been elected to serve as vice-chairman, education and training committee of the public utilities section of the National Safety Council.

The election was held in Chicago during the National Safety Congress, Oct. 17-21.

Election to the public utilities section executive committee, representing one of the important industrial sections of the Council, was in recognition of his abilities as a safety specialist in the industry.

Although the National Safety Council holds a U.S. charter, this non-profit association is dedicated to safety in all fields of accident prevention, and welcomes participation in its activities from outside organizations. Ontario Hydro is a member of its public utilities section, and representatives of the Commission have held positions on the executive committee on many occasions.

## R. E. Young resigns from Welland post

Engineer with Welland Hydro-Electric Commission for the past two years, Robert E. Young has resigned to accept a position with the marketing department of CLM Industries Ltd.

## BUY and USE CHRISTMAS SEALS



## FIGHT TUBERCULOSIS



ONTARIO HYDRO NEWS

# COOKIES FOR CHRISTMAS

by Lois Hurst, Ontario Hydro Homemakers' Service

“**W**HILE visions of sugarplums danced in their heads.” Children may well dream of goodies with the delectable aroma of newly-baked Christmas cakes and cookies filtering through the house.

Throughout the Christian world, special festive foods have become part of the Christmas tradition . . . English plum puddings and mince-meat pie . . . Scottish shortbread . . . German stollen . . . Norwegian julekake . . . Swedish spritzor and pepporkakor, to name just a few.

Every mother can count on plenty of “help” from the children when it comes to cookie baking. Cutting out cookies seems to be the delight of children the world over. Pictured here is a delightful “mobile” with the ornaments made from refrigerated slice n’ bake cookies. An infinite variety of

shapes can be created from the slices.

The word cookie comes from the Dutch “koekje,” a derivation of *koek*, meaning little cake. Decorating sugar cookies with gaily-colored icing and candied fruits and nuts arouses the artistic in everyone. These bright little cookies in Christmas shapes make a pretty picture when served with pieces of fruit cake, drop cookies and bars.

Elsewhere on this page are recipes for a spicy cookie, which keeps well, and also an inexpensive drop cookie with a favorite flavor for youngsters—peanut butter.

\* \* \* \*

Yuletide is a festive season, with parties and casual visiting. Apart from the time-honored family feasts, it offers a wonderful opportunity for informal entertaining. Keep foods simple. You can show off your portable electrical appliances by cooking right on the table, buffet or serving cart. And the meal stays piping hot.

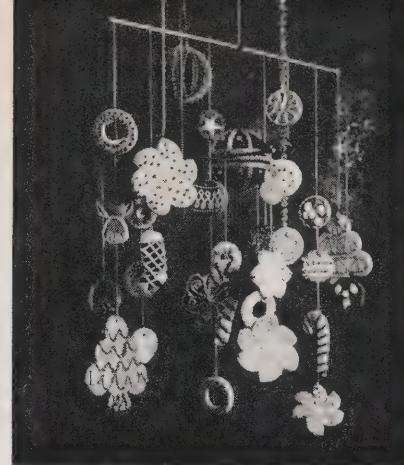
A decorate-the-tree party in the family room is a treat the teenagers will fondly remember. Burgers and onions are done to a turn on a heat-controlled griddle. Thick chocolate banana milk shakes come out smooth with an electric blender. Hot buttered popcorn comes fresh from an electric corn popper.

For Christmas morning breakfast, after the presents have been opened, let the family choose from blueberry pancakes, baked on an electric griddle, or a sausage-egg-scramble cooked in an electric frypan. Automatic egg cookers turn out soft- or hard-cooked eggs without guesswork. Four slices of toast pop up from a high style toaster. Plenty of coffee can be kept ready in a smart automatic coffee maker with a sealed control.

## CINNAMON STICKS

1 cup butter  
3/4 cup sugar  
2 teaspoons cinnamon  
1 teaspoon vanilla  
2 cups flour  
few grains salt  
2 eggs, separated  
1 cup chopped pecans

Cream butter, sugar, cinnamon and vanilla. Add flour, salt and beaten egg yolks. Mix well. Pat into a shallow greased baking pan, 8" x 13", to a thickness of about 1/4 inch. Beat egg white slightly and spread over top of cookie dough. Sprinkle with chopped pecans. Bake at 350° in electric oven for about 30 minutes. Cut into pieces about 1" x 2". Makes 4 dozen.



Perhaps you are entertaining with a supper party during Christmas week. An electric rotisserie gives turkey a juicy, luscious flavor. And it's so simple! A 10-pound turkey takes only about three hours. For a change, skip the stuffing and serve savory rice cooked in an automatic frypan.

Of course, small electric appliances make wonderful gifts. There is something for everyone, from a bottle warmer for baby, a hot dog cooker for the youngsters, or electric can-opener for grandmother. They are reminders all year of a happy Christmas. We hope that this will be the merriest, most memorable Christmas yet for everyone. ■

## PEANUT BUTTER BROWNIE MOUNDS

2 cups sugar  
1/3 cup cocoa  
1/4 cup butter  
1/2 cup milk  
3 cups quick cooking rolled oats  
1/2 cup peanut butter  
2 teaspoons vanilla

Mix sugar and cocoa in a saucepan. Add butter and milk. Bring to a boil, stirring constantly. Boil 2 minutes. Remove from heat. Stir in rolled oats, then peanut butter and vanilla. Mix well. Drop from teaspoon onto waxed paper. Chill in electric refrigerator before serving or storing. Makes 4 dozen.

# ALONG HYDRO LINES



## Elora Hydro plans new building

Elora Hydro-Electric Commission will spend an estimated \$14,673 from available funds to build a new office on property formerly owned by the village. The property title will be transferred to the utility for the sum of one dollar.

The commission accepted one of five tenders, \$11,673, for construction. Lighting and heating will cost an estimated additional \$3,000. Decorating and other work will be extra.

## London P.U.C. chairman bereaved

Mrs. Vera May Elizabeth Curtis, wife of Elmo W. Curtis, chairman of London P.U.C., died recently in Victoria Hospital, London, after a lengthy illness.

Born in Thamesford, Mrs. Curtis was a resident of London for 42 years. She was very active in community work, and served on the executive of a number of organizations. Besides her husband, she is survived by a brother, A. Donald Morrison, London.



## HISTORY PERPETUATED

ANOTHER link with Eastern Ontario's pioneer days was perpetuated recently with the formal opening and dedication of Ault Park by Ontario Hydro.

The park, a short distance west of Cornwall, Ontario, replaces the former picnic site on Sheek Island, given to Cornwall Township by descendants of the pioneer United Empire Loyalist Ault family in 1913. The 1913 deed stipulated that the Sheek Island property would revert to the ownership of the Ault family should the International Rapids Section of the St. Lawrence River be developed for power or navigation purposes.

Focal point in the 10-acre plot being developed is a huge field stone borne to the park from Sheek Island during power project construction on a special road across the dried-out bed of Long Sault Rapids. The original bronze plaque which decorated a similar stone at Sheek Island and a new one, presented by Ontario Hydro to mark the opening ceremonies, have been superimposed on the rock. Both were unveiled by Bromwell Ault, New York City

(right), a descendant of the pioneer family.

Lt.-Col. A. A. Kennedy, Ontario Hydro commissioner (left), who helped with the unveiling ceremonies, said development of the park marked the culmination of one of many promises fulfilled by Ontario Hydro as a reward to area residents for the inconvenience they suffered during power project construction.

## Form Essex County Electric Club

An electric club has been formed in Essex County by representatives of all branches of the electrical industry in that area. Similar clubs have already been established in Toronto, Ottawa, Hamilton, London and Sarnia.

Chairmen of the public utilities commissions of Windsor, Riverside, Tecumseh, St. Clair Beach, Sandwich East and Sandwich West are serving as honorary directors, and interim officers have been drawn from the utility executive staffs. H. B. Mattson, general manager of Sandwich East Twp. P.U.C., is chairman of the new organization.

## DREAMING OF A LIGHT CHRISTMAS?

(Continued from page 21)

garden, to light a barbecue, patio or for other purposes in the summer months.

### Decorating

Now on to the fun of decorating. Let the whole family pitch in with ideas . . . and work . . . but keep the plans simple for the best results and the most fun.

For those who want to string lights on an outdoor Christmas tree, here's a rule of thumb to figure out how many bulbs will be needed. Multiply the height by the width of the tree, in feet. Double this number, and this gives the approximate bulb count.

How about a spectacular "rainbow" tree. Select a special floodlight unit with a four-color disk that revolves above a clear bulb. Place it on the ground so that it shines on the evergreen. The "play of colors" is especially attractive after a snowfall and on aluminum trees.

### Shadow Decoration

Light and shade . . . equally dramatic. Experiment with new ideas. Decorate with shadows of Christmas trees, reindeer, Santa and his sleigh.

Cut figures such as these from plywood . . . paint them . . . with insulated staples, attach strings of colored lights. To bring bulbs closer together, overlap several strings and tape them to each other.

Stand the cutout figure about five feet from a plain wall—and turn a floodlight on it. The magical effect of a giant shadow on the wall behind doubles the decoration. It's especially effective where there are large areas of wall to trim.

If black shadows aren't festive enough . . . color them. Hide a colored floodlight in back of the plywood figure, shine it on the wall, and the wall is pre-tinted.



PARTICIPATING with the guest of honor, R. T. Moore (left) were Brampton civic officials Mayor Carman Core, Elmer Archdekin, Brampton Hydro chairman and Commissioner R. Dennis.

## HONOR BRAMPTON SUPERINTENDENT

**B**RAMPTON Hydro's fourth municipal substation, the Russell T. Moore D.S., was officially opened, on October 3, in a ceremony attended by Mayor Carman Core, members of Brampton Hydro-Electric Commission, staff members of Brampton Hydro, officials of Ontario Hydro's Central Region, and a number of leading Brampton citizens.

This 5,000-kva municipal substation was named for Mr. Moore, the Brampton Hydro superintendent, as a tribute to his 30 years of efficient and loyal service to the commission and the people of Brampton.

D. B. Ireland, consumer service

---

These are just a few ideas . . . the householder must let his imagination take over.

Once he has handled weather-proof yard lights . . . and master-minded holiday displays . . . he'll never keep decorations strictly indoors again. Every year will find him dreaming of a "light" Christmas. ■

engineer for Central Region, unveiled the commemorative plaque on the door of the distribution station.

Mr. Moore was born at Badjeros in Grey County, and worked on his father's farm until 1918, when he joined the Bell Telephone Company, working with that utility as a lineman until 1930, when he came to Brampton Hydro. He is married, and the Moores have three daughters and a son. ■

### Cornwall man leads Eastern metermen

A new slate of officers was elected at the annual convention of the Eastern Ontario Metermen's Association, held in Renfrew recently.

Those elected were: Henry Delorme, Cornwall, president; Arthur Veryard, Kingston, vice-president; Sam Haninck, Brockville, secretary-treasurer; Stanley Harrison, Gananoque; Kenneth Drummond, Carleton Place; W. Scrim, Hull-Gatineau; Ed Rice, Morrisburg, and Robert Spence, Deep River, directors.

## TEMPTING FATE

*(Continued from page 19)*

So it had to settle for the prosecution of a Metropolitan Toronto retailer. This dealer was convicted in magistrate's court of displaying for sale and selling the appliances. One was a radio with a "hot chassis" which could have been lethal.

If it is possible, in cases such as this, to identify the wholesaler, the load on the inspectors is lightened considerably.

The inspectors employ various means in tracking down offenders. Obtaining evidence of selling is sometimes difficult, because the inspector has to get a bill of sale.

Mr. Bellamy recalls a Toronto auction dealer who was selling unapproved shavers. "Our boys wanted to buy one, and the dealer was quite willing to sell, but he wouldn't give them a bill. He must have smelled a rat."

Stemming the tide of unapproved appliances is a year-round task for the department, but it really gets hectic at Christmas. "There is always somebody who sees the opportunity to make a fast dollar," the chief inspector says reluctantly.

Unapproved Christmas tree lights and decorations appear in great profusion in the stores. The 70-odd different electrical appliances now available are popular gift items, and unapproved ones find their way under many a Christmas tree.

All the department can do is catch what it can and hope that the ones that are sold don't cause any grief.

J. M. Hambley, Ontario Hydro's general manager, put the whole subject into sharper focus in a recent address to delegates attending a recent convention sponsored by the Canadian Section of the International Association of Electrical Inspectors in Toronto.

### Customs Blockade

Alluding to the concern with which Canadian manufacturers

view the problem they face in meeting standards for electrical appliances frequently avoided by illegal means by their foreign competitors, Mr. Hambley said Ontario Hydro would wholeheartedly support any proposal which would result in blocking entry into Canada of electrical merchandise which has not been approved by an appropriate testing body such as the Canadian Standards Association.

"Our Federal Government, however, has indicated that it is very reluctant to take action unless all the provinces delegate to it the authority to do so, as this is an area within the jurisdiction of the provinces under the British North America Act," he stated.

Complicating the problem, Mr. Hambley continued, are the varying conditions in each of Canada's 10 provinces, because of geographical features and other conditions, resulting in differing points of view even among the members of the Canadian Electrical Code Committee.

A possible solution might be the formation of a special committee under the sponsorship of the I.A.E.I. to "work out a reasonable basis of compromise—or at least determine certain principles on which general agreement could be reached," Mr. Hambley stated.

"The next step would then be to approach the individual provincial governments to get their concurrence; and if the 10 provinces—or perhaps even a majority—could agree on a common course of action, federal legislation should not be too difficult to obtain."

Meanwhile, can the buying public avoid being exposed to the hazards of faulty equipment? Simple, says Mr. Bellamy. "Don't buy without the CSA Approval seal." ■

### Three years aloft

Ontario Hydro's helicopter fleet has logged approximately 25,000 hours in the air—equivalent to almost three years' time aloft.

## London refunds customer deposits

Santa Claus will come early this year to thousands of Londoners, who will receive "gifts" of from \$5 to \$15 from London P.U.C.

The commission voted recently to eliminate the practice of requiring residential customers to sign a contract and for some to make a deposit before receiving Hydro service. About \$60,000 in deposits now held by the utility will be refunded to its customers.

General Manager V. A. McKillop, in recommending the change, pointed out that it would save considerable work for commission employees in 1961, when 15,000 or more customer services in township areas to be annexed by the city are taken over by the London utility.

## Former Cobourg commissioner dies

Former Chairman of Cobourg P.U.C., P. Grenville Thompson, a commissioner for six years, died recently in his 67th year.

## THE SAGO OF SANTA

*(Continued from page 7)*

the puzzling problem of Santa's existence. Virginia received an answer that has become a classic in journalism.

The Saga of Santa has acquired many satellites through the years. Some people believe that, in addition to his gifts, the ancient Bishop carries a bundle of birch rods in order to punish the naughty children as well as reward the virtuous.

The youngsters of Holland are taught that Santa travels with a sinister demon who does Old Saint Nick's "dirty work."

The French remember him as Père Noel, the Germans as Saint Nicolas who fills shoes with goodies, and the Norwegians as Kriss Kringle. To children . . . he is excitement, generosity, surprise and fun, all wrapped up in one jolly package. The Saga of Santa is one they never tire of hearing! ■

## SARNIA'S TOTEM POLE

A TOTEM pole is like a piece of modern art — you have to know what it's all about before you can appreciate it.

That's the opinion of John T. Barnes, Sarnia Hydro commissioner, who might be considered somewhat an expert in the field. Mr. and Mrs. Barnes first became interested in totems on a summer trip to British Columbia this year. Instead of bringing a souvenir home with them, they carved and painted a totem pole right in their own back yard.

It's unlikely that do-it-yourself totem poles will catch on. Mr. Barnes figures it took him about



100 hours over a period of two weeks to carve the figures into an old Hydro pole with a chisel, hatchet and saw. Mrs. Barnes spent an equal amount of time painting the pole in its vivid colors.

Before the actual carving could begin, however, the Barnes had to do a lot of homework on the history and meaning of totem poles. They found that totem art began among the northwest Indian tribes of Alaska and British Columbia only about 150 years ago, and the custom died out except for the tourist trade, just 30 years ago.

"A totem pole is to an Indian what a family crest is to a Euro-

## HYDRO FLAT RATE, 1911 STYLE

*(Stratford Beacon-Herald — October 8, 1960)*

WHEN the Stratford Public Utility Commission opened its handsome new administration building on Wednesday, one of the most interested visitors was P. R. Locke, of St. Thomas. He had a special reason for attending: as executive vice-president of the Ontario Municipal Electric Association, he offered congratulations on behalf of that body. Apart from his official interest in the day's events, however, Mr. Locke's thoughts were partly concerned with his first introduction to Ontario Hydro.

Percy R. Locke was born on the farm of his father, the late Charles E. Locke, whose land lay along Edgeware Road just north of St. Thomas. The elder Locke was quite a man to tinker with things new, and Hydro got him excited.

St. Thomas was the first municipality to sign a contract for Sir Adam Beck's Ontario-owned Niagara power. But Hydro service was not actually available in St. Thomas until 1911, some months after Stratford's Hydro birthday, Christmas Day, 1910.

There was no rural Hydro service in 1911, but Charlie Locke and two of his neighbors quickly worked out a deal to get Hydro power from St. Thomas. The three farmers joined forces to erect power lines at their own expense. Each of the three was given a flat rate for power: all the Hydro he wanted for \$108 a year.

So Charlie Locke went to work to make his bargain pay off. He developed one of the first Hydro-equipped farms in Ontario. In the years 1911 and 1912, Percy Locke recalls, the farm had electric lighting, a Hinman electric milking machine (it worked); an immersion-type water heater to provide hot water for washing the milk utensils; a Cataract washing machine for clothing, bedding, etc.; an electric iron; an electric plate for cooking; and what was said to be the first Hydro-powered grain grinder in the province.

No, the \$108-flat-rate deal didn't hold for many years.

The Locke farm is now a part of St. Thomas, and P. R. is selling house lots from the family acres.

Who had the first Hydro-equipped farm in the Stratford area? ■

pean," Mr. Barnes points out. "When you look at a totem pole, remember that, contrary to general belief, it is neither ancient nor an idol. Many were carved between 1900 and 1920."

The word totem, which is Algonquin, means an animal or inanimate object which is related to an Indian family by blood. A bear, which might first have attacked an Indian, then saved his life, becomes a totem and takes his place on the family pole.

The Kwakiutl and Nootka Indians especially respected the

Thunderbird, a powerful and awesome creature which they believed caused thunder by flapping its great wings. The Haida Indians featured the older, more bold and direct style of carving, symbolizing the Indian Doctor, the Whale, Beaver, Bear, Eagle, Frog and Wolf.

"While our totem pole is only a garden attraction," Mr. Barnes says, "we have tried to perpetuate a dying art by accentuating three of the Indians' best-loved figures—the Thunderbird, a Great Chief and a Wolf." ■

# OFF THE WIRES



BELIEVE IT OR NOT—they really are selling refrigerators above the Arctic Circle these days!

FOR PROOF, just ask Murray Whelpton, a commissioner of Sandwich East Township P.U.C., or George A. Docherty, the township's deputy reeve, who are partners in the firm of Docherty-Whelpton Construction Company at Windsor, Ontario.

A FEW WEEKS AGO, the firm completed construction of a weather station at Port Harrison in the land of the igloo. The

contract, awarded by the Department of Transport Air Services, also called for a small school and home for the teacher.

\* \* \*

ALL IN ALL, Mr. Whelton had to fly in seven carloads of equipment for the lonely outpost, including a new electric refrigerator for the radio operator's home. And just for proof, the young commissioner-contractor is shown beside the new "frig" with two interested residents of the outpost, who had never seen such a gadget before.

\* \* \*

PERHAPS THIS WILL START a new trend in those parts toward electrical living—but the equipment had better be in good order, as a return air fare for an electrician or service man from Moosonee to the weather station is said to be well over \$1,000.

\* \* \*

JUST ANOTHER WORD about Port Harrison—the electric power supply is provided by two diesel units and all the electrical wiring is underground.

\* \* \*

WHILE OUR NORTHERN FRIENDS appear to favor electrical refrigerators, Ontario's rural house-

wives are believed to consider a power washing machine as the most important labor-saving device in their homes.

\* \* \*

A SURVEY OF 352 HOMEMAKERS in each county and district of the Province, conducted jointly by rural sociology and home economics representatives of the Canadian and Ontario Government Departments of Agriculture, revealed that an electric or gas stove stood next in the list of 37 pieces of equipment considered "most useful" by the rural ladies.

\* \* \*

THIRD ON THE LIST was a refrigerator, according to the analysis, which showed that an automatic clothes dryer was the fourth. Also high on the list of useful equipment were such electrical appliances as freezers, vacuum cleaners and floor polishers, while electric ironers or mangles, food mixers, sewing machines, coffee makers and toasters are also favorites.

\* \* \*

AND NOW IT'S TIME TO extend heartiest Season's Greetings to our many readers and the countless people who contribute their time and skills to producing this magazine. ■

# ONTARIO HYDRO NEWS INDEX - 1960

Atoms at Your Service (Royal Ontario Museum)	January
Atom and Canada, The	February
Almonte—Since Ballyhliblin Days	June
Atomic Test Rig	June
Advice for the Lightning-Lorn	July-August
Accent on the Atom	September
After 280 Years (Niagara Falls)	October
Animal X-Ray (Ontario Veterinary College)	October
A Gratifying Report (Sarnia Land Transaction)	November
Appliances, Unapproved (Tempting Fate)	December
Ault Park (History Perpetuated)	December
Allied Council of Electricity	Supp. 5

## ASSOCIATION OF PROFESSIONAL ENGINEERS

Engineers and Art (A.P.E.O. Art Show)	March
---------------------------------------	-------

## ADVERTISEMENTS — LIVE BETTER ELECTRICALLY

How Many Perfect Drying Days in a Year?	January
Loads and Loads of Hot Water	February
Don't be a "hot water waiter"	March
I Double Dare You	April
Give Modern Electric Appliances	May
Unexpected Company	June
Kitchens (Safer—Cleaner—Cooler)	July-August
One White—One Brown (Toasters)	September
Sleep Well (Electric Blankets)	October
When the gift is electric	November

## ARCADE OF LIGHT

Off-the-Wires	July-August
300 Moons Bright	September

## ASSOCIATION OF MUNICIPAL ELECTRICAL UTILITIES

A.M.E.U. Honors J. S. McGregor—H. J. MacTavish	May
Name A.M.E.U. Engineering Consultant (Ray Coles)	June
O.M.E.A.-A.M.E.U. Convention Program	Supp. 3
The Challenge of Education	Supp. 4
Harry Hyde Named A.M.E.U. President	Supp. 4
Galt Plans Safety Program (D.N. Durward)	Supp. 4
Experience Poor Teacher (Roy Beith)	Supp. 4
Trees and Communications Main Problems	Supp. 4
Labor Relations Seminars (H. A. Grandfield)	Supp. 4
Group Liability Insurance (C. O. Biggs)	Supp. 4
From the Distaff Viewpoint	Supp. 4
Depreciation (Dan Gorrie)	Supp. 4
Summer Conference, Kingston	Supp. 5
Russia Makes Progress in Developments	Supp. 5
Load Study in Toronto Area	Supp. 5
Vehicle Demonstration (Trafalgar Twp.)	Supp. 5
Eastern Ontario Conference	Supp. 5
Delinquent Customers on the Peg	Supp. 5
Billing Presents Problems	Supp. 5
Meter Readers Key Employees	Supp. 5
Public Relations Programs (J. A. Blay)	Supp. 5
Pensions and Insurance	Supp. 5
Doubling Power Demands (J. M. Hambley)	Supp. 5
E.H.V. Experiments	Supp. 5
Keep Surplus Funds for Growth	Supp. 5
Allied Council of Electricity	Supp. 5
Lighting and Road Safety	Supp. 5
Substations Require Supervisory Control	Supp. 5
Speaker Stresses Standard Voltage	Supp. 5
A.M.E.U. Accounting Conference (Western)	Supp. 6

Big Job's Done, The (St. Lawrence Power Project)	January
Beatty, Harry G., Peterborough (Retirement)	January
Barrington, E. G., Toronto (Retirement)	January
Bush, Herbert, Mimico (Retirement)	February
Bowling (Down Our Alley)	April
Blomme, H. A. (Appointment)	April
Blossom Time	May
Birds, It's for the	May
Blake, G. R., Woodbridge (Appointment)	September
Bogdan, Karol (He Will Remember Vienna)	October
Binge or Bonanza (Grey Cup Game)	November
Boulding, Wesley, Guelph (Retirement)	November

Brampton Superintendent, Honor (R. T. Moore)	December
Barnes, John (Sarnia's Totem Pole)	December
Biggs, C. O. (Group Liability Insurance)	Supp. 4
Blay, J. A. (Utility Public Relations)	Supp. 5
Brown, E. W., Woodbridge (Obituary)	Supp. 5

## SIR ADAM BECK

Plaque Marks Birthplace (Baden)	Supp. 5
---------------------------------	---------

## SIR ADAM BECK NO. 2 PROJECT

Generating Stations are Tourist Attractions	July-August
---	-------------

<b>C</b> Cottagers Must Pay Their Way (Summer Cottage Rates)	May
Coles, Ray (Appointment)	June
Crate, A. V. (Appointment)	June
Cook-outs Can be Fun (Let's Chat)	July-August
Communists, 900 Million (J. S. Duncan)	September
Canadian Nuclear Association, Formation	October
Colleagues Acclaim W. Ross Strike	Supp. 4
Community Planning (George Muirhead)	Supp. 6
Coulter, L. L., Ottawa (E.O.M.E.A. Presidency)	Supp. 6

## CHRISTMAS

Greetings from Ontario Hydro	December
Christmas Tree Crop	December
Christmas in Retrospect	Supp. 3

## CANADIAN NATIONAL EXHIBITION

300 Moons Bright (Arcade of Light)	September
Accent on the Atom (Hydro Building)	September

## CANADIAN ELECTRICAL ASSOCIATION

Thermal Section—Spring Meeting	Supp. 5
--------------------------------	---------

## CONSERVATION

Spare That Tree (Article I)	June
In Defence of Our Forests (Article II)	July-August
Christmas Tree Crop (Article III)	December

## CANADA

Electricity and Employment	February
The Atom and Canada	February
New Worlds for Old	October

## CANADIAN STANDARDS ASSOCIATION

Tempting Fate	December
---------------	----------

## CANDU

Atomic Test Rig	June
-----------------	------

## CLIFF, D. P.

Citizen of the Year	February
O.M.E.A. Membership Growing	Supp. 4

<b>D</b> Down Our Alley (Bowling)	April
Dundas Does It (New Area Office)	May
Dobson, Dr. W. P. (E.I.C. Award)	June
Dundas (Old Town in the Valley)	October
Doors Swing Wide (Hospital for Sick Children)	December
Dreaming of a Light Christmas?	December
Durward, D. N. (Galt Safety Program)	Supp. 4
Depreciation, Individual or Composite (D. Gorrie)	Supp. 4
Davis, G. R. (E.U.S.A. Presidency)	Supp. 5

## DUNCAN, JAMES S.

900 Million Communists	September
Alias S.S. Red Wing	October
Announces Rebates	Supp. 4
Russia Makes Progress in Development	Supp. 5
Many Factors Affect Costs	Supp. 6

## DES JOACHIMS, G.S.

Generating Stations are Tourist Attractions	July-August
---	-------------

**PUBLICITY**

A Technique for Greater Understanding (Part I) ..... July-August  
 Writing the Release (Part II) ..... September

**POWER RESOURCES**

Electricity and Employment ..... February  
 Northland's New Era ..... April  
 Pumped Storage Plants (J. M. Hambley) ..... Supp. 6

**POWER COSTS**

Electricity and Employment ..... February  
 Changeover Resolution (O.M.E.A. Dist. 5) ..... Supp. 5  
 Many Factors Affect Costs (J. S. Duncan) ..... Supp. 6  
 Talk on Costing Procedure (D. J. Gordon) ..... Supp. 6

**POWER DEMANDS**

Doubling of Power Demands Forecast (J. M. Hambley) ..... Supp. 5  
 Pattern Changes in Northwest (K. N. Bodkin) ..... Supp. 6

**PUBLIC SPEAKING CONTEST, ONTARIO**

Talking Talents ..... May  
 Aid to Better Corporate Image ..... Supp. 5

**R** Richmond, C. E., Toronto (Obituary) ..... January  
 Richardson, C. M. Weston (Obituary) ..... April  
 Rose by Any Other Name, A (Ontario names) ..... July-August

**REGIONAL**

Change Regional Boundaries (Central - East Central) ..... April  
 Eastern Region (In Canada's Capital) ..... May  
 Gibbon, T. H. (New Regional Manager) ..... May

**RATES**

Cottage Rates (Cottagers Must Pay Their Way) ..... May

**RED ROCK GENERATING STATION**

Red Rock "On The Line" ..... November

**RESEARCH**

Meeting The Test ..... March  
 Research Laboratory Moves ..... May

**RURAL**

The Raisin Goats at Rosegate ..... October  
 Rural Streamlining (Essex Area) ..... October  
 Hydro Flat Rate — 1911 Style (P. R. Locke) ..... December  
 Survey — Ontario Farms (Off-The-Wires) ..... December

**S** Storm Saga (Metropolitan Toronto Ice Storms) ..... January  
 St. Ix Lockout ..... January  
 St. Catharines Homemakers Show Helps Housewives ..... February  
 Smith, A. T., North Bay (Name Substation) ..... February  
 Stewart, W. R., West Ferris (Name Substation) ..... February  
 Streetsville's Largest (Stormfairs) ..... March  
 Site of the Three R's (Streetsville P.U.C. Office) ..... April  
 Still Going Strong (Streetsville Power Plant) ..... April  
 Smith, R. J., Perth (Obituary) ..... May  
 Stacey, Gordon, Guelph (Appointment) ..... May  
 Suggestion Plan (Banking on Good Ideas) ..... June  
 Swedish Plant (Power from a Mountain) ..... June  
 Summer Camps (Learning to Live) ..... July-August  
 Shaddick, R. E., Hensall (Obituary) ..... July-August  
 Scott, Karl E. (New Worlds For Old—Editorial) ..... October  
 Sarnia Land Transaction (A Gratifying Report) ..... November  
 Subway Saga ..... November  
 Stratford Invests in Quality ..... November  
 Sick Children's Hospital (The Doors Swing Wide) ..... December  
 Saga of Santa, The ..... December  
 Scholarships, Ontario Hydro ..... December  
 Sarnia's Totem Pole ..... December  
 Smith, W. H., Toronto Hydro (Supervisory Control) ..... Supp. 5  
 Sprentall, Frank, Stirling (Retirement) ..... Supp. 5

**STORMS**

Storm Saga ..... January  
 Trees and Communications Main Problems ..... Supp. 4

**STARR, R. H. (Toronto Township)**

Retirement ..... July-August  
 Obituary ..... November

**SALES PROMOTION**

What do we promote? ..... February  
 We Should All Promote ..... April  
 They're in Hot Water ..... May  
 Commission's Water Heater Rental Plan ..... May  
 Sales Seminars ..... May  
 They Can Try Before They Buy (London P.U.C.) ..... June  
 O.M.E.A. District 5 Panel Discussion ..... Supp. 5  
 Must Sell Electricity (Harry Hyde) ..... Supp. 5  
 Sales Training Seminars ..... Supp. 5  
 Allied Council of Electricity ..... Supp. 5  
 Promotion Effort Vital (W. R. Strike) ..... Supp. 6  
 Missionary Fervor Needed (Harry Hyde) ..... Supp. 6  
 Speakers Call For All-Out Effort (Dist. 3) ..... Supp. 6  
 Panel Topic at Preston (Dist. 6) ..... Supp. 6  
 Name Promotion Group (Dist. 6) ..... Supp. 6  
 Lively Panel Discussion (Georgian Bay M.E.A.) ..... Supp. 6  
 Advertising and Service Essential (E.O.M.E.A.) ..... Supp. 6

**STRIKE, W. ROSS, Q.C.**

Tribute to a Good Citizens ..... April  
 Vice-Chairman has a Sideline ..... October  
 Rural Streamlining (Essex Area) ..... October  
 Stratford Invests in Quality ..... November  
 Promotion Effort Vital ..... Supp. 6  
 Colleagues Acclaim Ross Strike ..... Supp. 4

**ST. LAWRENCE SEAWAY AND POWER PROJECT**

The Big Job's Done ..... January  
 Judged Engineering Achievement of Year ..... April  
 Engineering Honor (A.S.C.E. Award) ..... June  
 Generating Stations are Tourist Attractions ..... July-August  
 Season for the Seaway ..... October  
 Alias S.S. Red Wing ..... October  
 History Perpetuated (Ault Park) ..... December  
 Eastern Ontario W.N.A. Tour ..... Supp. 5

**T** Thornbury Plant Ceases Operation ..... January  
 This Underground Problem ..... March  
 Taxing Times ..... March  
 Third Claim to Fame (Gananoque Power Plant) ..... March  
 Temple, John, Streetsville (Jack-of-all-Trades) ..... April  
 Talking Talents (Public Speaking Contests) ..... May  
 Trail, J. J. (E.I.C. Award) ..... June  
 They Raisin Goats at Rosegate ..... October  
 Thackeray, Benjamin, North York Twp. (Retirement) ..... November  
 Tempting Fate ..... December  
 Thompson, P. G., Cobourg (Obituary) ..... December

**TRANSMISSION LINES**

Melting Ice (The Heat's On) ..... January  
 Storm Saga ..... January

**TELEVISION**

TV Watchdogs ..... October

**U** Underground Problem, This ..... March  
 Upper Canada Village (Grandma Used 'Em) ..... March

**V** Victory Over Crisis—1959 in Retrospect ..... January  
 Vignettes of the "Hard Sell" Era ..... February  
 Vincent, F. J. Toronto (Obituary) ..... May

**VOLTAGE**

Standard Voltage Stressed (E. M. McKay) ..... Supp. 5

**W** Winter's Magic ..... January  
 What do we promote? ..... February  
 Workmen's Compensation Board (It's a Model) ..... March  
 Willows, Gordon (Appointment) ..... April  
 We're Banking on Good Ideas ..... June  
 West, Oliver, Toronto (Obituary) ..... October  
 Whelpton, Murray, Sandwich West (Off-The-Wires) ..... December

**WATER-HEATER PROGRAM**

They're in Hot Water ..... May  
 Commission's Water Heater Rental Plan ..... May

**WILSON, DR. V. S.**

Named O.M.E.A. President ..... Supp. 4

LIBRARY

JUL 16 1965









Gov.Doc   Ontario. Hydro-Electric  
Ont              Power Commission  
H              Hydro news  
                    v.47(1960)

PLEASE DO NOT REMOVE  
CARDS OR SLIPS FROM THIS POCKET

---

UNIVERSITY OF TORONTO LIBRARY

---

